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All the Lonely People?:
How Living or Working Alone Shapes Our Social Lives

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All the Lonely People?:
How Living or Working Alone Shapes Our Social Lives

by

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For Esther N. Capin - who lived and worked alone, but lived and worked for others.

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All the Lonely People?:
How Living or Working Alone Shapes Our Social Lives

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The University of Texas at Austin, 2016

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Social integration and its inverse social isolation have concerned sociologists since the inception of the discipline. Over the last 30 years, living alone and working from home — two arrangements that have implications for social integration — have become increasingly common in the United States. Do people who live alone spend more or less time doing socially integrating behaviors? Do people who work from home on a given day spend more or less time with their families? How might the answers to these questions vary based on certain key demographic characteristics? In this dissertation, I use data from the American Time Use Survey to answer these questions. I employ a comprehensive series of behavioral indicators to measure the amount of time spent in social activities. I find that the results are mixed when it comes to living alone and working from home. People who live alone spend less time with others overall, but make concerted efforts to compensate by spending more time with friends and in public places outside the home. Results varied by age, gender, and employment status. When parents work from home, they do spend more time with their children in general; however, several key differences between men and women, and married and unmarried respondents exist. This dissertation has implications for the study of social isolation, family life, and work in the 21st century.

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Introduction

Being alone is perhaps the most disliked human experience in American popular culture. Loneliness can be found in the lamenting string quartet in The Beatles' "Eleanor Rigby" (1966), in Eric Carmen's sorrowful "All By Myself" (1975), or even in Sting's imploring vocals in "Message in a Bottle" (1979). It can also be seen in literary works, like Daniel Defoe's *Robinson Crusoe* (2003) or, more recently, Andy Weir's *The Martian* (2011). In each of these cases, isolation is seen as a curse, as something to be avoided.

Given the negative experiences associated with being alone, it makes sense, then, that sociologists would seek to understand what causes people to lead socially isolating lives. Social isolation has worried sociologists from the discipline's beginnings. Émile Durkheim (1897) — often considered the father of sociology — wrote that individuals who were less integrated in their communities felt a lack of belonging that would potentially drive them to suicide. Karl Marx and Friedrich Engels (1978) famously cautioned that capitalism had strong consequences for workers' lives beyond the workplace, and that factory workers would be increasingly alienated from one another. Ferdinand Tönnies (2011) theorized that modernization would drive people to become more isolated individuals, weakening communal ties. Among these theorists, strong changes in social institutions like the family or the workplace could have dire consequences for social integration.

Yet, these classical sociologists were writing during the swelling of the Industrial Revolution, and much has changed since then. Factory work in the United States has

declined in favor of a service economy (Bell 1976), one that increasingly favors flexible hours and working from home (Cappelli 1999). With the rise of telecommunications and technology like long-distance phone calls (Fischer 1994) and the Internet (DiMaggio et al 2001), we can now contact one another instantaneously from across the globe (Chen, Boase, and Wellman 2002), thereby lessening the consequences to our relationships with friends and family by moving away (Wellman et al 2003).

Other institutions that have long undergirded social integration in American society have been overhauled. For instance, the American family structure has undergone tremendous changes over the years, from increased divorce rates (Ruggles 1997), higher rates of women in the workplace (Semyonov 1980), and shrinking family sizes (Vespa, Lewis, and Kreider 2013). In fact, today over a quarter of American households now consist of single occupants according to the American Community Survey (Vespa et al 2013). Furthermore, while the United States has long been considered a nation of joiners (Tocqueville 2003 [1840]; Almond and Verba 1963; cf Curtis, Baer, and Grabb 2001), it has recently witnessed a decline in traditional voluntary associations (Putnam 2000; Rotolo 1999; Skocpol 2003) and religious institutions (Pew 2012, 2015). More Americans, it seems, are moving away from long-standing institutions in favor of a more flexible, individualized approach (Wellman 2002).

So, if sociologists worried about social isolation in the 19th century, they certainly have not stopped in the 21st. Both researchers and the general public tend to panic about people being socially isolated (see Wang and Wellman 2010 for a discussion). Yet, being

alone in one sphere of life, like home or work, may not inherently mean that someone isn't socially integrated. In fact, some research suggests the opposite: that living alone can in fact be better for social integration (Klinenberg 2012; Alwin, Converse, and Martin 1985; Hughes and Gove 1981), or that working by oneself at home can help family life (Galinsky, Bond, Friedman 1993; Hill, Hawkins, and Miller 1996; Gajendran and Harrison 2007).

Yet, most of the studies investigating these theories have been based on qualitative interviews, small sample sizes, or non-randomly sampled respondents. What would we find if we brought a large, random sample to bear on these theories? Would we actually find that people who live alone are more or less socially isolated than their non-solo counterparts? That parents who work from home on a given day actually spend more time with their families? And how might the answers to these questions differ depending on key demographic characteristics?

The purpose of this dissertation is to answer these questions. In the pages that follow, I offer a new look into the lives of people who live or work alone. Throughout the dissertation, I make use of the rich, robust sample from the American Time Use Survey (ATUS). Run by the Bureau of Labor Statistics, the ATUS offers a unique look into the daily lives of Americans by asking them what, where, and whom they were with throughout a randomly sampled day. This dissertation has implications for the study of social isolation, family life, and work in the 21st century.

This dissertation going forward

Though each of the chapters in this dissertation address how being alone in some capacity influences social integration, each chapter can also be seen as its own study. I will briefly summarize each of my chapters in the following paragraphs.

In Chapter 1, I investigate whether or not people who live alone are more isolated than those Americans who live with others. In some studies, living alone is assumed to be an inherently isolating social factor (e.g. Bachrach 1980; Cornwell and Waite 2009; Holt-Lunstad et al 2015). In other studies, however, living alone has been shown to increase socially integrating behaviors (e.g. Klinenberg 2012; Hughes and Gove 1981; Alwin et al 1985). In any case, social science has not yet deliberately investigated the everyday lives of people who live alone across a large, nationally representative sample. Chapter 1 offers a comprehensive look into the lives of those who live alone, and the extent to which they are truly socially isolated in American society.

Chapter 1 also offers an extensive overview of my use of the American Time Use Survey. I introduce nine indicators of socially integrating or isolating behaviors that serve as the basis for both Chapter 1 and Chapter 2. These indicators offer a new approach to the study of social integration.

Chapter 2 delves further into the lives of people who live alone. While Chapter 1 investigates whether or not living alone affects social integration in a meaningful way, Chapter 2 investigates how living alone interacts with other demographic factors — specifically age, gender, and employment — with regards to the nine indicators of

socially integrating or isolating behaviors introduced in Chapter 1. The chapter makes heavy use of two- and, in some cases, three-way interactions. To portray these results in a more accessible way, the chapter includes a series of figures demonstrating the interaction effects between living alone, age, gender, and employment. I conclude the chapter with a call for additional research into the many different experiences of one person households.

While the first two chapters of this dissertation focus on living alone and social integration, my third chapter takes a slightly different, but related, focus. Chapter 3 investigates how the act of working from home impacts the amount of time that parents spend with family members and conducting childcare activities. A burgeoning body of research discusses whether or not working from home can positively affect the amount of time that people can spend with their families, especially their children (Gajendran and Harrison 2007; Golden, Veiga, and Simsek 2006), and yet research has never actually turned to time use surveys to investigate these claims. In my third chapter, I run a series of models predicting leisure time spent with family, leisure time spent with children, and time spent conducting childcare activities to determine whether or not working entirely from home on a given day does, in fact, help work-family balance for parents.

Finally, I conclude with a summary and discussion of my findings throughout the dissertation. My conclusion discusses some of the contributions of the dissertation overall, as well as some of the new questions that this dissertation raises for future

research. This dissertation offers new insights for the study of pro-social behaviors and the acts of living or working alone.

Chapter 1: All By Myself? Living Alone and Indicators of Social Integration

Social scientists widely consider social integration to be a positive outcome, and its inverse, social isolation, to be a negative one. Social integration refers to how much an individual is connected to other people and interacts with others; social isolation as the extent to which an individual is disconnected from other people (Wilson and Musick 1999; Parigi and Henson 2014; McPherson, Smith-Lovin, and Brashears 2006). Socially integrated individuals who are embedded in their communities have better mental health (Kawachi and Berkman 2000), more employment opportunities (Erickson 2001), and a better say in government (McLeod, Scheufele, and Moy 1999). People who are socially isolated, on the other hand, are more likely to commit suicide (Durkheim 1897; Trout 1980), are more likely to be depressed (Ross and Mirowsky 1989; Pillemer and Glasgow 2000), and generally have poorer physical health (House, Landis, and Umberson 1988; Cacioppo and Hawkley 2003). It makes sense, then, that sociologists, both classical and contemporary, would be interested in circumstances, like living alone, that may contribute to social isolation or integration.

Since 1970, the rates of living alone have steadily increased and as of 2012, 27% of American families consisted of a sole occupant (Vespa, Lewis, and Kreider 2013). Living alone has often been used as an indicator of social isolation in the health literature (e.g. Bachrach 1980; Cornwell and Waite 2009; Holt-Lunstad et al 2015). But are people who live alone inherently more isolated than those Americans who live with others?

Some research casts doubt on this view, suggesting instead that solo-dwellers may compensate for their lack of families by becoming more engaged in their communities (Hughes and Gove 1981; Alwin, Converse, and Martin 1985; Klinenberg 2012). But social science has not yet purposely investigated the everyday lives of people who live alone across a large, nationally representative sample.

Are people who live alone participating in activities that promote social integration? Or are they more likely to hunker down and act in socially isolating ways? Using data from the 2010-2014 American Time Use Survey (ATUS), I investigate the extent to which living alone promotes or preempts social integration using a comprehensive set of indicators of social integration or isolation. The American Time Use Survey draws from a robust sample of over 45,000 respondents and sidesteps many issues with social desirability bias common to standard survey questions on social integration. The ATUS includes data on what respondents were doing, where they were doing it, and whom they were with. It therefore provides a valuable look into solo dwellers' socially integrating (or isolating) behaviors. A quarter of Americans now live alone (Vespa et al 2013). Given the consequences of social isolation, it is crucial that social science offers a more rigorous understanding of this population.

What components make up social integration?

Social integration has been a key concern to sociologists since the field's beginning. Durkheim's seminal work *Suicide* (1897) determined that structural and

demographic factors influenced the rates at which individuals committed suicide. Some classic scholars, like Ferdinand Tönnies (2011), worried that modernity and urbanization would reduce social integration; others, like Georg Simmel (1972) saw the potential benefits these forces could provide. Integration in the early American experiment was a key concern to early sociologists, like Alexis de Tocqueville (2003) and Max Weber (2010).

Yet, for all of the classical work on social integration, scholars have generally failed to produce an explicit definition of the term (Mitchell 1979; Gibbs and Martin 1964). Even Durkheim (1897) — who is often called the founder of studies on social integration — never offers a concrete definition. In an attempt to define social integration, I discuss some of the concepts that have stemmed from social integration. These include social cohesion, social capital, and social integration's inverse, social isolation. By looking at these related concepts, I can determine the similarities between them and break social integration into its most fundamental components.

Social cohesion — much like social integration, its conceptual cousin — suffers from considerable conceptual ambiguity, though it can be understood as the social pressures and attitudes that keep individuals in a group or community (Hogg 1992; Bollen and Hoyle 1990; Moody and White 2003). Bollen and Hoyle (1990: 482) argue that subjective feelings around "an individual's sense of belonging" are a key component of social cohesion as a concept. Others have since taken a more networked approach,

showing how network structure can in turn influence emotional attachment to groups and communities (Moody and White 2003; Paxton and Moody 2003).

The concept of "social capital" serves as another networked take on social integration. Social capital refers to those positive and trusting social ties that confer benefits and resources to individuals and communities (Paxton 1999; Coleman 1988). Social capital can be strengthened by building social ties, whether by participation in voluntary associations (Paxton 1999; Stolle and Rochon 1998; Wollebaek and Selle 2002), volunteering (Yeung 2004; Kay and Bradbury 2009; Kim and Kawachi 2006), or new friendships (Helliwell and Putnam 2004; Ellison, Steinfeld and Lampe 2007). Social capital has been measured by combining indicators of trust and association membership (Paxton 1999), or asking whether or not a respondent knows an alter with a particular occupation, from a janitor to an engineer (Lin 1999; Lin and Dumin 1986).

Just as prominent in the literature is the inverse of social integration — social isolation. At its most basic, social isolation is defined as the lack of social interaction or contact with family, social ties, or the wider community. Over the last two decades, scholars have once again grown concerned over social isolation and its measurement (for a review see Parigi and Henson 2014). Robert Putnam's articles (1995a, 1995b) and subsequent book *Bowling Alone* (2000) on the decline of community in the United States reinvigorated studies on social isolation and integration. Putnam's "decline of community thesis" (Paxton 1999) argues that the rise of television and other solo activities preclude people from leaving their homes and building social capital. To Putnam, spending leisure

time with others is crucial to social capital. Network generators — in which respondents are asked a series of questions about their social ties — are one of the key ways scholars have measured respondents' levels of social isolation (e.g. McPherson et al 2006; Hampton, Sessions, and Her 2010) or social embeddedness (Moody and White 2003).

At their core, all of these theories take three behaviors as their building blocks (1) positive interactions with others (2) spending time in places beyond one's home and (3) activities beyond one's private affairs. These three behaviors are the very foundation upon which all theories of social integration rely.

Living Alone: Isolating or Integrating?

During the 1980s, researchers noted that the rates of living alone were increasing (Hughes and Gove 1981; Alwin, Converse, and Martin 1985; Pampel 1983). This raised considerable concern among the academic community since, up to that point, research suggested that living alone was tied to a variety of negative outcomes, such as higher rates of suicide (Sainsbury 1955), mortality (Korbrin and Hendershot 1977), and psychiatric disorders (Redick and Johnson 1974).

Research by Michael Hughes and Walter Gove (1981), however, suggested that living alone was not inherently isolating. Gove and Hughes (1980) argued that selection effects accounted for much of the pathologies found among solo dwellers. Contrary to research that claimed that living alone caused mental illness, Gove and Hughes (1980) found that people who lived alone did not experience mental health deterioration because

they lived alone; rather, people who experienced mental health effects were more likely to live alone in the first place. They conclude in a follow up article that, "living alone does not appear to be particularly problematic. Indeed, there is some evidence that it may be a somewhat better living arrangement for those who are not married than is living with others" (Hughes and Gove 1981: 69). While Hughes and Gove posited that people who lived alone could be compensating by developing "supportive friendships which provide an alternative form of social integration to that experienced by most persons" (i.e. nuclear families), they didn't investigate this claim (1981: 69).

Several years later, Alwin, Converse, and Martin (1985) did discover that people who lived alone were compensating for their relative lack of family time by having more contact with friends. They admitted that their "measure of contact speaks to frequency of visits, but not to their actual duration: a brief stop at a friend's presumably counts as much as an all-day visit" (1985: 329). Alwin et al (1985) conducted several secondary analyses using a time diary method, noting that such a method could feature less social desirability bias. While their study points to the usefulness of time diaries to study the social time spent by solo dwellers, the authors noted several limitations, chiefly that they relied on not being married as their indicator of living alone, and that the data did not permit a distinction between time spent with friends or time spent with relatives. The time diary method has since become more more nuanced and robust.

Today, it is a common assumption in the social science literature that living alone is inherently isolating (Bachrach 1980; Cornwell and Waite 2009; Holt-Lunstad et al

2015). Yet, in his book *Going Solo* (2012), Eric Klinenberg counterintuitively finds that people who live by themselves, whom he calls "singletons", may be more socially integrated than we might suspect. Across age ranges, many of the singletons felt that their lives were much more fulfilling and personally meaningful than if they lived with others. The findings were surprising even to Klinenberg, who, in his ethnography of the lethal 1995 Chicago heat wave, found that people who lived alone (especially impoverished older men) were much more likely to perish than their fellow citizens (2003). *Going Solo* (2012), on the other hand, challenges common sense assumptions, and Klinenberg's rich and accessible prose brings singletons' triumphs and struggles to life.

Still, Klinenberg's findings were based on roughly 300 in-depth interviews. While an impressive sample for a qualitative study, Klinenberg and his research team relied partly on snowball sampling to recruit participants. Snowball sampling is the practice of using respondents to identify additional respondents. It relies on the assumption that a social tie exists between two people. Therefore, the fact that someone has a social tie to have been recommended to a researcher means that at least some of Klinenberg's recruits would have been more socially integrated from the get go.[1] It is possible, then, that the singletons in Going Solo could have been more social than if they had been sampled randomly.

[1] Because *Going Solo* is written with a popular audience in mind, Klinenberg's methodological Appendix is relatively sparse. Readers therefore do not know exactly how many of Klinenberg's respondents were recruited through snowball sampling.

So, are people who live alone more or less likely to participate in socially integrating activities than those who live with others? This study offers a robust, comprehensive investigation of this question. I document its data source and method in the following section.

Data and Method

Previous research on social integration and isolation has used a variety of survey instruments. These include attitudinal indicators, standard behavioral questions, and network generators. Attitudinal variables involved in social integration include those on subjective feelings of trust (e.g. Paxton 1999; Kim and Kawachi 2006) or belonging (e.g. Bollen and Hoyle 1990). While I don't disagree that positive feelings are an important piece to social integration, without actual objective behaviors these feelings don't amount to much. Standard behavioral questions ask respondents about those activities that contribute to social integration, like attending voluntary associations or volunteering. Unfortunately, these questions are often riddled with social desirability bias, or the bias incurred when respondents edit their respondents to keep in line with social norms (Tourangeau et al 2000; Tourangeau and Yan 2007).

Network generators have become a popular way to measure objective social ties. In 2006, a study using the General Social Survey's network generator prompts found that the number of respondents reporting that they had no close ties had sharply increased (McPherson et al 2006). The findings set off a "media panic" (Wang and Wellman 2010),

and skeptical researchers declared the findings to be an artifact (Fischer 2009). Ultimately, researchers discovered that the network generator was prone to interviewer effects: interviewers were simply inputting that respondents had zero close ties in order to avoid the lengthy series of followup questions required for each tie (Paik and Sanchagrin 2013; see also Marsden 2003). These findings have called into question whether network generators are a reliable estimator of social isolation and integration.

Each of measurement types above has its own set of issues. We therefore need to find creative new ways of measuring respondents' participation in community life, drawing on past theories of social integration and isolation. In this study, I focus on how respondents behaviors in a given day contribute to social integration using the ATUS, which I discuss in the sections that follow.

About the ATUS

In this study, I employ data from the 2010-2014 American Time Use Survey. The American Time Use Survey (ATUS) has been run as a joint effort between the Bureau of Labor Statistics and the U.S. Census Bureau since 2003. Though time diaries have been used on a small scale from as early as the 1920s, the ATUS represents the first large scale effort to measure how Americans spend their days and the culmination of over 10 years of extensive survey design and pre-testing (BLS 2015; Hamermesh, Frazis, and Stewart 2005; Horrigan and Herz 2004). Respondents are randomly selected from households who have completed their eighth and final month of interviews of the Current Population

Survey (CPS). The ATUS data file includes demographic information provided by respondents in their previous interviews with the CPS, including household size. In this study, I exclude respondents under the age of 18, since I am interested in the living experiences of adults. I measure living alone as having a household size of 1.

How does the ATUS survey work? Interviewers ask respondents to walk them through the previous 24 hours, from 4:00 a.m. the previous day to 4:00 a.m. on the day of the interview. All activity responses are initially typed verbatim by interviewers. For every activity a respondent conducted that day, the interviewer also asks follow-up questions about how long the activity went on, where it transpired, and whom the respondent was with. A second interviewer then combs through the respondent's answers and codes them into one of dozens of categories provided by the BLS. Because of the flexibility of the open-ended prompt, the ATUS has been used to study a variety of activities, including time spent with children (Kendig and Bianchi 2008), Americans' sleeping habits (Basner et al 2007), physical activity and obesity (Tudor-Locke et al 2009; Zick, Stevens, and Bryant 2011), religious attendance (Brenner 2011), and carpooling (Srinivasan and Bhat 2008).

Because it relies on an open question format, the ATUS offers a unique look into the everyday social (or anti-social) activities of respondents. Most other surveys ask people to estimate the amount of time they spend doing different activities in a given week or year using closed-ended responses. For instance, the General Social Survey asks, "Which answer comes closest to how often you spend a social evening with friends?

Almost daily, several times a week, several times a month, once a month, several times a year, once a year, or never?"

Time diaries like the ATUS have two key benefits over this method. First, the survey asks about the previous day, which aids with recall (Robinson and Godbey 1997; Hamermesh et al 2005). It is much easier for respondents to remember what they did the previous day than to recall for an entire year (Weisberg 2009). Second, time use surveys may help minimize social desirability effects. People want to present a social self (Rap and Paxton 2016; Victor et al 2000). It seems reasonable, therefore, to suspect that respondents may overreport the amount of time they spend socially if explicitly asked about it in a survey. By avoiding asking respondents explicitly about their pro-social or anti-social behaviors, we may have better estimates of their time use on such indicators.

Time diaries like the ATUS do have some notable limitations, however. Because time use surveys are relatively costly, respondents only report on one day. I therefore cannot examine what a person's social time looks like holistically. Though an incomplete window into the social lives of respondents, the ATUS provides a large enough sample that the results should still be robust, since those respondents who spend more time than usual socializing will be balanced out by those who spend less time than usual (see Robinson and Godbey 1997 for a discussion). And simply looking at the amounts of time spent in certain activities overlooks the quality of that time. Indeed, arguing is technically counted as socializing under the ATUS activity codes.

Nevertheless, the ATUS provides a valuable look into the amount of time people who live alone or with others spend on socially integrating or isolating behaviors. I discuss my measures of these behaviors in the following section.

Measuring Social Integration and Isolation

The ATUS dataset includes a thorough selection of activity codes available for analysis. Only measuring explicit activity codes leads to an anemic estimate of respondents' social integration. Luckily, the ATUS data is rich enough that one can easily create additional measures based not only what the respondent was doing, but also on where and whom the respondent was with for each activity.[2] Accordingly, this study employs a comprehensive set of dependent variables to assess the effects of living alone on social integration and isolation. I use several indicators based on what the respondent was doing, where they were, and whom the respondent was with for prevalent measures of social integration.

[2] Creative use of time use measures beyond the ATUS activity codes can be found in other studies. In her analysis of time spent conducting childcare, Craig (2006) created a variable that assessed the total time spent by mothers or fathers with their children (regardless of activity), as well as a variable assessing how much time each parent spent with children in the presence of their spouse. Additionally, Lin (2012) introduced a novel way of estimating respondents' work time by also including non-work activities that took place during the constraints of the respondents' work day. He incorporated a variable that measured work time not simply as conducting explicitly work-related activities, but also those activities that were conducted at the workplace during work hours. Using this measure, Lin was able to address the much discussed gap between work time estimates in standard survey questions versus time use surveys (e.g., Bonke 2005; Robinson and Bostrom 1994). In short, the ATUS allows researchers not only to measure and predict the minutes spent in a particularly coded activity, it also allows for investigations into with whom and where respondents were during their recorded day.

What activities indicate social integration or isolation?

Social scientists have identified numerous activities that can promote or prevent social integration. Social isolation is often defined as the absence of social ties. Social ties are built upon socializing and interacting with other people (Homans 1974; Lin, Ye, and Ensel 1999; Marsden 1990). Interacting with other people is one obvious action that can contribute to social ties and therefore social integration. Thus, we can extrapolate that someone is more or less isolated based off of the quantity of their interactions.

Another activity that is commonly associated with social integration is participation in voluntary associations. Voluntary associations have been heralded as an integrating force since the days of Alexis de Tocqueville (2003), and Max Weber (2010). Associations help provide their members with positive interactions and a sense of "belongingness" (Lin, Ye, and Ensel 1999; Fine 2012; Bollen and Hoyle 1990). Though it remains unclear if overall participation in voluntary associations has declined over the years (see Putnam 2000; Paxton 1999; Rotolo 1999; Paxton and Rap 2016), these concerns about declines arise because of associations' role in providing social ties and building trust among community members (Feld 1981; Putnam 1993). We would therefore expect someone who participates in voluntary associations to be more integrated in her community.

While the work of volunteers who give their time freely to help others in a committed way positively impacts communities, volunteering can also help integrate individual volunteers into the community (Wilson 2000). Volunteering builds

"interpersonal trust, toleration and empathy for others, and respect for the common good" (Wilson and Musick 1999: 148) as well as social ties with others beyond the home (Wuthnow 1998; Musick and Wilson 2007). Indeed, one of the key benefits of volunteering is the opportunity of interacting with new people and expanding one's social circle (Morrow-Howell, Kinnevy, and Mann 1999). Volunteering has been positively linked to good mental health (Rietschlin 1998) in part because it increases social integration (Moen, Dempster-McClain, and Williams 1992).

Finally, some activities, such as watching television, may preempt social integration and promote social isolation (Oldenburg 1989; Putnam 1995b, 2000). In the most predominant of these studies, Robert Putnam (1995b, 2000) charged that television was a key factor in the decline of community engagement in the United States over the 20th century, drawing heavily on Robinson and Godbey's (1997) finding that time spent watching television watching had radically increased since the 1960s. Putnam argues that time spent engaged in passive activities, like watching TV, comes at the expense of time spent on socially integrating activities. Though the link between increased television watching and declining community involvement has often been criticized as overly simplified (see Norris 1996; Moy, Scheufele, and Holbert 1999), television watching may continue to displace time spent engaging in socially integrating activities and therefore warrants consideration in a study of social integration and isolation.

Perhaps the most direct way of measuring social integration is by measuring how much time the respondent spent in explicitly pro- or anti-social activities. I include

measures of three socially integrating activities— time spent socializing, whether or not someone attended a voluntary association meeting, and whether or not someone volunteered — and one potentially isolating activity — watching television.

The ATUS includes two activity codes for measuring time spent socializing: "Socializing and communicating with others" and "Attending or hosting parties/ receptions/ceremonies." My first indicator of social integration measures the amount of time spent by a respondent conducting either of these two activities. The ATUS also includes an activity code for participation in voluntary associations. Minutes spent "Attending meetings for personal interest" constitutes my second indicator of a socially integrating activity. Volunteering activities are heavily documented in the ATUS coding lexicon, with everything from working in a soup kitchen to tutoring, from stuffing envelopes to selling raffle tickets. My third indicator of a socially integrating activity measures whether or not someone conducted any of the ATUS volunteer activities on the respondent's reported day. Finally, I also include a dependent variable measuring the time spent in an activity widely blamed for its socially isolating effects: watching television. The ATUS includes both watching non-religious or religious television — minutes spent in either of these activities constitutes my fourth measure of isolating/integrating activities.

Which locations indicate social integration or isolation?

Another way of thinking about socially isolating or integrating behaviors is by considering where people spend time. Scholars have theorized that certain locations can integrate members of the community better than others. Jürgen Habermas (1991 [1962]) identified coffee houses, bars, and taverns as important public spaces where citizens could gather to meet and discuss current events. Years later, Ray Oldenburg (1989) lauded the benefits of "third places"— those locations beyond the home or the workplace, including cafés, coffee shops, bars. Places like restaurants and bars can provide their patrons with companionship and emotional support (Rosenbaum 2006). Leaving the house and visiting these third places may therefore alleviate social isolation and promote social integration.

Choosing not to leave home, however, can also indicate something about someone's social life. A common concern among community scholars is that participation in public life has declined in favor of private leisure at home. While the scale of this "privatization" of leisure time is up for debate (Van Ingen and Dekker 2011), generally speaking community scholars see time spent at home as preempting participation in community life (e.g. Sennett 1992). More time spent at home may therefore preempt social integration.

I include a dependent variable that measures the amount of time spent, in minutes, in restaurants, bars, and coffee shops. In contrast, I also include a dependent variable that measures the amount of time, in minutes, that respondents spend at home.

Whose presence indicates social integration or isolation?

Spending leisure time with others is a crucial component of the extent to which we are socially integrated or isolated. While spending leisure time alone can be nourishing in its own way, community scholars tend to see time spent with others as a key component of building integrating ties (Campbell and Lee 1992; Nie, Hillygus, and Erbring 2002). Different relationship types can have different effects on a person's social integration. Scholars often distinguish between close, intimate, bonding ties and bridging, interactive ties beyond one's immediate social circle (Granovetter 1973; Lin, Ye, and Ensel 1999; Putnam 2000). Community scholars are often quick to point out the qualitative differences between familial and non-familial ties for social integration (Homans 1974; Allan 1979; Wellman and Wortley 1990).

The family is an important site not only for early childhood socialization, but also for social support in adulthood (Wellman and Wortley 1989). Family members provide a pre-existing set of bonding social ties (Parcel and Menaghan 1994; Putnam 2000; Coleman 1988) and cognitive and social development (Bianchi and Robinson 1997). They provide the emotional tools that enable individuals to competently make new social ties in the larger community (Procidano and Heller 1983).

However, research suggests that married couples and nuclear family members may look inward and give less attention to their relationships beyond immediate family (Perlman and Duck 1987; Milardo 1988; Gerstel 2011) — the very relationships that help build stronger communities (Gerstel and Sarkisian 2006). Putnam (2000) warns that

bonding ties in the absence of outside ties have the potential for overly inward looking social groups (see also Paxton 2002). In other words, the jury is mixed when it comes to family ties and their effect on social integration.

Relationships with non-kin, such as those with friends and co-workers, can also be equally supportive (Wellman and Wortley 1990). Friendships with non-kin are highly voluntary and have no legal or institutional backing (Allan 1979; Adams and Allan 1998; Rubin 1985; Fischer 1982b). These ties represent "a continuous creation of will and choice" relying entirely on the agency of individuals to be maintained (Silver 1990: 1476). Some research suggests that non-kinship ties are more important for well-being (Arling 1976; Phillips and Fischer 1981). Interactions with friends and other non-familial ties are an indicator that someone is actively trying to integrate and avoid social isolation, rather than simply relying on pre-existing, built-in familial ties for these purposes.

To that end, I include three dependent variables that measure the amount of time spent in various leisure activities with others overall, with family members, and with non-family members. Table 1.1 showcases the different alters included in each of these measures. The ATUS includes leisure activities from bowling to reading, from going to a museum to watching a football game. For a comprehensive list of the leisure activities I include in the following three measures, see Table 1.2.

Analysis Plan

In this study, I use regression models to investigate the differences between singletons and those who live with others on the nine measures of social integration and isolation described above, holding other variables constant. Using multivariate analyses allows me to estimate how much living alone (or not) influences social integration if singletons and non-singletons were the same across other characteristics and circumstances. I will discuss how I determined appropriate multivariate models in the following paragraphs.

Table 1.1: Alters included for dependent variables

Whom the respondent was with	Combined measure	Only with Family	Only with non-Family
Spouse	✓	✓	
Own household child or foster child	✓	✓	
Grandchild	✓	✓	
Parent (either living in household or not)	✓	✓	
Brother / sister	✓	✓	
Other related person	✓	✓	
Friends	✓		✓
Neighbors, acquaintances	✓		✓
Housemate / roommate	✓		✓
Roomer / boarder	✓		✓
Unmarried Partner	✓		✓
Other non-relative	✓		✓
Boss or manager	✓		✓
People whom I supervise	✓		✓
Co-workers	✓		✓
Customers	✓		✓

Table 1.2: Activities included in variables measuring time spent with others

Activity Name	Activity Code
Consumer Purchases	
Shopping (except groceries, food, and gas)	70104
Eating and Drinking	
Eating and drinking	110101
Socializing, Relaxing, and Leisure	
Socializing and communicating with others	120101
Attending or hosting parties/receptions/ceremonies	120201
Attending meetings for personal interest (not volunteering)	120202
Relaxing, thinking	120301
Tobacco and drug use	120302
Television and movies (not religious)	120303
Television and movies (religious)	120304
Listening to the radio	120305
Listening to/playing music (not radio)	120306
Playing games	120307
Computer use for leisure (excluding Games)	120308
Arts and crafts as a hobby	120309
Collecting as a hobby	120310
Hobbies, except arts & crafts and collecting	120311
Reading for personal interest	120312
Writing for personal interest	120313
Attending performing arts	120401
Attending museums	120402
Attending movies / film	120403
Attending gambling establishments	120404

Table 1.2, cont.: Activities included in variables measuring time spent with others

Activity Name	Activity Code
Sports, Exercise and Recreation	
Doing aerobics	130101
Playing baseball	130102
Playing basketball	130103
Biking	130104
Playing billiards	130105
Boating	130106
Bowling	130107
Climbing, spelunking, caving	130108
Dancing	130109
Participating in equestrian sports	130110
Fencing	130111
Fishing	130112
Playing football	130113
Golfing	130114
Doing gymnastics	130115
Hiking	130116
Playing hockey	130117
Hunting	130118
Participating in martial arts	130119
Playing racquet sports	130120
Participating in rodeo competitions	130121
Rollerblading	130122
Playing rugby	130123
Running	130124

Table 1.2, cont.: Activities included in variables measuring time spent with others

Activity Name	Activity Code
Skiing, ice skating, snowboarding	130125
Playing soccer	130126
Softball	130127
Using cardiovascular equipment	130128
Vehicle touring/racing	130129
Playing volleyball	130130
Walking	130131
Participating in water sports	130132
Weightlifting/strength training	130133
Working out, unspecified	130134
Wrestling	130135
Doing yoga	130136
Attending Sporting/Recreational Events†	130201
Volunteer Activities	
Administrative and Support Activities	1501**
Social Service and Care Activities (Except Medical)	1502**
Indoor and Outdoor Maintenance, Building, and Clean-up Activities	1503**
Participating in Performance and Cultural Activities	1504**
Attending Meetings, Conferences, and Training	1505**
Public Health and Safety Activities	1506**

For more information on the ATUS activity codes, visit www.ls.gov/tus/lexiconwex2014.pdf

Note: For simplicity, I have not included all of the individual activity codes for attending sporting events or volunteering in the table above. The ATUS has a "Watching ___" code for each of the other sport/recreational activities listed above and I didn't want to be repetitive. These activities are, however, included in my measures.

One of the challenges of the ATUS data is that the number of minutes spent on activities tends to be zero-inflated (Brown and Dunn 2011; Stewart 2009; Foster and Kalenkoski 2010). What's more, the zeros can be due to either sampling or respondents' circumstances. Let's use, as an example, the amount of time spent at work. With time use data, a zero value for time spent at work could happen for one of two reasons. First, the respondent may simply be unemployed and would therefore not spend any time working. Second, the respondent may have been reporting on a day that they happened to not work, like the weekend. Such sampling zeros can be a particular challenge for activities that happen infrequently, like volunteering (Moen and Flood 2013) or voluntary association attendance (Andersen, Curtis, Grabb 2006).

I am by no means the first researcher to encounter this problem — zero-inflated distributions have been flummoxing time use researchers since the start of the ATUS. The use of Tobit models — which are typically used when there is a defined floor or ceiling to the distribution of the dependent variable — was originally in vogue among researchers (e.g. Bianchi and Robinson 1997; Sousa-Poza, Schmid, and Widmer 2001; Kalenkoski, Ribar, and Stratton 2005; Kimmel and Connelly 2007). In the last few years, however, the use of Tobit models has been widely discouraged because Tobit treats the decision not to partake in an activity as the same decision as the amount of time spent doing an activity (Stewart 2009).

Some authors instead use a "double-hurdle" model based off of Cragg (1971) (e.g. Moen and Flood 2013; Prickett, Martin-Storey, and Crosnoe 2015), who was originally

testing the rate of consumer purchases within a three-month time frame. For instance, if someone didn't buy a washer/dryer during a 3 month time frame, we don't know from the data if they simply haven't bought a refrigerator or if they just did not buy one during the time that was sampled. It's a similar issue with ATUS -- we do not know if the person typically doesn't go to the movies, or if we just happened to not catch them on a day they caught a show. Unlike the Tobit model, which treats the decision to do the activity and the amount spent in the activity as the same decision, the Cragg model sees these as two separate decisions. It involves running a logistic regression to predict having done the activity at all, and then an OLS regression predicting the amount of time spent doing the activity, conditional on having done it.

However, this two-part model carries its own biases. Jay Stewart is an economist at the Bureau of Labor Statistics who has written extensively on measurement and the ATUS (Hamermesh, Frazis and Stewart 2005; Frazis and Stewart 2012; Frazis and Stewart 2014). Stewart (2009: 12) writes:

> As long as the probability of doing the activity on a given day does not depend on any of the covariates, the two-part model generates estimated marginal effects that are unbiased and invariant to the fraction of zeros in the data. However, if the probability of doing the activity on any given day is a function of one of the covariates, the two-part model behaves unpredictably. This is unfortunate, because a potential advantage of the two-part model is the ability to decompose the marginal effects to examine the effects of covariates on incidence and intensity.

Stewart ran a simulation comparing the results across Tobit, Cragg, and OLS models and ultimately recommends using OLS since “the probability of doing the activity on the

diary day is a function of more than one covariate" (2009: 12), in spite of the fact that it violates the normality assumption of OLS regression (Brown and Dunn 2011). Since then, OLS has been used by a variety of researchers to predict the amount of time spent in activities (e.g. Cawley and Liu 2012; Craig and Bittman 2008).

Following the advice put forth by Stewart (2009), I use OLS regression to predict the amount of time spent in minutes for seven of my nine dependent variables. I decided to run logistic regressions if the distribution for the dependent variable consisted of over 90% zeros. This includes the variables measuring time spent at voluntary associations and volunteering.

I will briefly offer some summary statistics on my dependent variables, which can be found in Table 1.3. It should be immediately clear that some of the variables — socializing explicitly, attending voluntary association meetings, volunteering, spending time in third places, and spending time with friends and other non-family — are heavily zero-inflated, given that their medians are set to 0. Furthermore, the standard deviation for nearly all of the dependent variables spans at least an hour. The standard deviation for time spent at home, for instance, is over four and a half hours. What's more, it is clear from first glance that the average amount of time spent on socially integrating and socially isolating behaviors differs between those who live at home and those who live with others, particularly when it comes to time spent watching television, with family, or

with friends[3]. Respondents vary considerably in how much time they spend in different socially integrating or isolating behaviors.

Table 1.3: Summary statistics for dependent variables

	Mean (in minutes)		Median (in minutes)		Standard Deviation (in minutes)	
Dependent Variable	Singleton	Non-Singleton	Singleton	Non-Singleton	Singleton	Non-Singleton
Socializing Explicitly	48.45	46.89	0	0	101.35	95.19
Attending Association Meetings	0.96	0.47	0	0	14.04	9.08
Volunteering	9.47	9.68	0	0	50.98	50.18
Watching Television	223.11	163.57	178	120	212.32	170.07
Third Places	20.52	17.86	0	0	54.90	47.04
Home	511.23	476.60	515	460	289.06	270.71
With Others Overall	125.05	258.83	50	225	172.27	195.42
With Family	42.50	198.02	0	155	112.22	185.84
With Friends and non-Family	76.14	43.03	0	0	139.91	107.89

Control Variables

I have chosen controls that could potentially influence living alone and/or time spent in behaviors that contribute to social integration or isolation. These include income,

[3] Indeed, with the exception of volunteering ($t = 0.44$), t-tests comparing whether or not the means among singletons and non-singletons all came back statistically significant, nearly all at the $p < 0.001$ level.

education, living in a rural location, race/ethnicity, gender, employment, age, and whether or not it was a weekend.[4] By including these variables in my regressions, I can minimize their effects on both my dependent and independent variable. I will briefly describe the controls I use in my models.

Income has a direct effect on social behaviors. Higher incomes allows individuals to more easily pay dues for voluntary associations, or spend money in restaurants and bars. Not having enough money to spend may preempt individuals from leaving the house, encouraging television watching and discouraging other pro-social behaviors like volunteering or association membership, or even going out for drinks or food. Income also influences how easily someone can live alone; after all, it's much less expensive to share living expenses with a roommate (Klinenberg 2012). Indeed, cross-sectional surveys found that living alone is fostered by increases in income (Pampel 1983). I therefore control for income as a discrete measure, in thousands of dollars.

Similarly, education has, time and again, been demonstrated to influence pro-social behaviors. Increased levels of education leads to more time spent volunteering (Wilson 2000; Brady, Schlozman, and Verba 1999), a higher likelihood of voluntary association membership (Verba, Schlozman, and Brady 1995), and less time spent

[4] In addition to these controls, I also investigated measures of mental health, since mental health could mediate the relationship between living alone and social integration. Said another way, someone who is mentally ill might live alone and spend less time with others due to their illness. Because ATUS respondents are randomly selected from those who have completed the Current Population Survey, I looked into some of the CPS modules to see if there were any indicators of mental health. The CPS, beginning in 2010, had a module on well-being; however, it was only conducted in 2010, 2012, and 2013 (i.e. not all years included in my sample) and only a subset of respondents in those years were asked to participate.

watching TV (Hughes 1980). Accordingly, I include years of education as a predictor in my analyses.

Much ink has been spilled on the effects of urban life on social integration and isolation (see Parigi and Henson 2015 for a review). Furthermore, as part of the CPS, respondents are tagged as living in a particular type of metropolitan status (e.g. metropolitan or non-metropolitan). Social integration and isolation in a rural area may look very different from larger cities (Komarovsky 1946). I therefore employ a dummy variable where nonmetropolitan areas have a value of 1.

I also include several demographic statuses, including gender, age, and race/ethnicity. Social isolation among the elderly has been an acute concern in the gerontological literature, since spouses and friends pass away at higher rates (Victor et al 2000; Arling 1976). My analyses therefore includes the respondent's age in years and age in years squared, since age often features curvilinear effects.

Furthermore, I incorporate gender as a dichotomous measure, with female respondents given a value of 1. Women and men are often seen as practicing different kinds and different amounts of socially integrating behaviors (Fischer 1982a; Bell 1981; Gerstel 1988), as do people from different races or ethnicities (Marsden 1987; McDonald, Lin, and Ao 2009). I include race/ethnicity as a categorical variable, including categories for Black, Hispanic/Latino, Asian, and other race and ethnicities, with white as the omitted category.

Finally, I incorporate two independent variables whose effects may constrain or open up time use for my dependent measures. Employment can constrain the amount of time workers have for other activities (Lin 2012), so I include a dichotomous measure where respondents who are employed have a value of 1. I also include a dummy variable measuring whether or not the respondent's reported day was a weekend, since, for many Americans, the weekend offers categorically different opportunities for socializing or leisure activities than weekdays.

In the following section, I describe how living alone, when controlling for each of these variables, impacts time spent conducting socially integrating or isolating behaviors.

Comparing Singletons to their Non-Solo Counterparts

How does living alone impact one's social isolation across nine different indicators? In the paragraphs below I discuss the results from my multivariate analyses predicting the amount of time spent in various activities expected to contribute to social integration or isolation.

How much time do singletons spend in activities that promote or preempt social integration?

Table 1.4 displays the results from the regressions predicting the time spent in activities that promote or preempt social integration Let's look, first, at the amount of time spent socializing explicitly based off of the ATUS activity codes. Looking at the

intercept alone, respondents reported spending about 67 minutes socializing within the explicit ATUS codes, "Socializing or communicating with others" and "Attending or hosting parties/receptions" when controlling for all effects in the model. Singletons, when controlling for the other variables in the model, spent about 4 more minutes socializing within these activity codes compared to their non-solo counterparts. While statistically significant, this seems like a relatively minor difference per day, though one that amounts to about 28 more minutes per week.

Table 1.4: Models Predicting Time Spent in Integrating/Isolating Activities

	Minutes Spent Socializing Explicitly	Minutes Spent Watching Television
Singleton	3.77***	19.21***
Age	-1.09***	2.57***
Age²	0.01***	-0.01***
Female	3.97***	-49.38***
Black	0.33	37.18***
Hispanic	4.62***	-17.93***
Asian	-12.15***	-19.17***
Other Race	-1.91	8.30^{+}
Years of Education	0.15	-6.67***
Income	<0.01^{+}	>-0.01***
Rural	4.84***	-4.10*
Employed	-11.22***	-71.62***
Weekend	26.48***	41.52***
β_0	67.23***	236.49***
N = 57,787	R^2 = 0.03	R^2 = 0.16

^{+}p<0.10; *p <.05; **p <.01; ***p<.001 (two-tailed test)

Other predictor variables had slightly larger effect sizes. Those who were employed spent about 11 fewer minutes socializing than the unemployed under the ATUS activity codes, likely due to the increased amount of time spent at work. Asian Americans spent about 12 fewer minutes socializing than whites, ceteris paribus. The largest effect size in this model, however, makes intuitive sense: respondents spent more time socializing on the weekend compared to weekdays by about 26.5 minutes.

Let's turn to the results from the logistic regressions predicting whether or not someone volunteered or attended a voluntary association meeting. As it turns out, singletons are not as likely to volunteer as their non-solo counterparts: the odds of singletons volunteering were 0.79 times less than those who live with others. Nearly all of the other predictors in the model presented in Table 1.5 had statistically significant odds ratios, so I will highlight the most substantial of these. Hispanic and Asian Americans were much less likely to volunteer on a given day when compared to whites, with odds ratios of 0.62 and 0.39 respectively. For every year of education, a respondent is about 1.17 times more likely to volunteer on a given day. Women are about 1.32 times more likely to volunteer than men. In short, living alone means someone is less likely to volunteer on a given day, but many other factors play a role, too.

The model predicting voluntary association attendance in Table 1.5 offers additional insights into Americans' participation in the voluntary sector. Though standard indicators of voluntary association membership declines offer mixed signals (Rap and Paxton 2016; Rotolo 1999; Paxton 1999) the *time* spent in voluntary associations has

Table 1.5: Models Predicting Participation in Integrating Activities

	Volunteered (Odds Ratio)	Attended Association Meeting (Odds Ratio)
Singleton	0.79***	1.56***
Age	1.03***	1.3
Age²	1.00**	1.00
Female	1.32***	1.19
Black	0.90*	1.25
Hispanic	0.62***	1.10
Asian	0.39***	0.65
Other Race	0.92	1.20
Years of Education	1.17***	1.11***
Income	1.00***	1.00
Rural	1.18***	0.82
Employed	0.77***	0.61***
Weekend	1.13***	0.77*
N = 57,787	*Pseudo-R^2* = 0.05	*Pseudo-R^2* = 0.02

+p<0.10; *p <.05; **p <.01; ***p<.001 (two-tailed test)

declined (Andersen, Curtis, and Grabb 2006). How does living alone matter with regards to attending a voluntary association meeting? It turns out to have one of the most substantive effects in this model. Respondents who lived alone were about 1.56 times more likely to attend an association meeting on a given day when all other factors are controlled for. Two other factors had statistically and substantially significant effects. For each year of education, we can expect someone to be 1.11 times more likely to attend an

association meeting. Employed respondents were about 0.61 times less likely to attend an association meeting on any given day, controlling for other factors in the model.[5]

What about time spent watching television, which scholars have frequently pointed to as an anti-social activity (Putnam 2000; Oldenburg 1989; but see Norris 1996; Moy et al 1999)? We see from the constant coefficient in Table 1.4 that Americans continue to watch large amounts of television on average, even controlling for a variety of different demographic characteristics— nearly five hours of television on a given day. People who live alone watch 19 more minutes of television than average. On this particular measure, singletons could potentially be more socially isolated, given their somewhat higher television watching rates. Alternatively, their television watching may simply be indicative of having more free time — free time they would not necessarily have had in a family setting.

That being said, the effect size of living alone is by no means the most substantive effect in this model. Black respondents spent about 37 more minutes watching television than whites, ceteris paribus. Not surprisingly, respondents watch about 41.5 more minutes of TV on the weekends. On average, women watch about 49 fewer minutes of television on a given day than men. For every year of education, a respondent watches about 6.7 fewer minutes watching television. This amounts to about 27 fewer minutes for college graduates compared to high school graduates. Income also has a statistically significant

[5] All three of these odds ratios aside, it is worth pointing out that even an employed singleton with a master's degree is still less than 1% likely to attend an organization meeting on any given day when we plot the regression results, as in Figure 2.10 in Chapter 2 and Figure B.6 in Appendix B.

effect on television watching. For every additional $50K made by respondents, television watching declines by about 11 minutes.

To summarize, the balance sheet is mixed for singletons' time spent in pro- and anti-social activities. Singletons spend about 4 more minutes socializing under the explicit ATUS activity codes. They are more likely to attend a voluntary association meeting in a given day, but slightly less likely to spend time in other volunteer activities. Finally, they spend about 19 more minutes watching television than those who live with others. In the next section, I investigate the amount of time singletons spend in locations that promote or prevent social isolation.

How much time do singletons spend in locations that promote or preempt social integration?

Table 1.6 offers the results from my models predicting time spent in socially integrating or isolating locations. Overall, the results from time spent in third places (i.e. restaurants and bars) were not particularly substantive. Here, living alone is the strongest predictor of spending time in third places. Singletons spend about 7 more minutes, on average, in third places. This is a slightly larger effect size than the reported day being a weekend, which involves about 6.5 more minutes spent in restaurants and bars, ceteris paribus.

Perhaps more indicative of socially isolating time use are the minutes respondents spend at home. Community scholars tend to be wary of time spent at home. On average, respondents spend about 6.6 of their waking hours at home. Understandably, employed

respondents spend about 3 hours and 3 fewer minutes at home, since many are working on their reported day. And people spend about one more hour at home during the weekend than weekdays. People who live alone, however, spend about 35 fewer minutes at home, ceteris paribus, suggesting that they may leave their home to prevent isolation.

Table 1.6: Models Predicting Time Spent in Integrating/Isolating Locations

	Minutes Spent at Home	Minutes Spent in Restaurants or Bars
Singleton	-35.19***	6.45***
Age	6.20***	-0.61***
Age²	-0.03***	0.01***
Female	9.80***	-2.50***
Black	-29.50***	-5.45***
Hispanic	-39.92***	-0.25
Asian	-3.63	-5.34***
Other Race	4.85	0.05
Years of Education	-1.15**	1.12***
Income	>-0.01***	<0.01***
Rural	-0.71	-1.87***
Employed	-182.12***	3.51***
Weekend	60.82***	6.80***
β_0	395.06***	10.99***
N = 57,787	R^2 = 0.18	R^2 = 0.03

+p<0.10; *p <.05; **p <.01; ***p<.001 (two-tailed test)

It is worth noting that age had a substantial effect on the amount of time spent at home. As respondents grew older, they spent significantly more of their time at home. A

25-year old would add about 174 minutes of time spent at home; a 45-year old about 340 minutes; and a 65-year old about 530 minutes. Age — as we will see in the next chapter — plays a large role in socially integrating and isolating behaviors.

How much time do singletons spend with people who promote or preempt social integration?

Finally, how much leisure time do singletons spend in the company of others? Do results differ between spending time with family versus non-family? These results are presented in Table 1.7.

The intercept for time spent with others overall is about 5.31 hours per day. Predictably, this increases by about 89 minutes during the weekend. However, the largest effect size in this model is living alone: singletons spend 2.3 fewer hours in leisure time with others than their non-solo counterparts. Singletons are not co-present with others for a considerable amount of time.

The final two models offer some nuance to singletons' overall co-presence time, however. Singletons spend about 171 fewer minutes in leisure time with family, all other variables held constant. This makes sense: it is harder to spend time with family when they do not live in the same house. Interestingly, singletons spend 41 minutes more with non-family members, though, in the final model predicting minutes spent with non-family. This is by far the largest effect size in the final model (the next largest effect size is the coefficient for women, who spend 17.5 fewer minutes with non-family). It seems,

then, that solo-dwellers do attempt to compensate for missed social time by seeking on non-familial companionship (Alwin, Converse, and Martin 1985).

Table 1.7: Models Predicting Time Spent with Others

	Minutes Spent with Others	Minutes Spent with Family	Minutes Spent with Non-Family
Singleton	-137.34***	-171.24***	41.15***
Age	-2.43***	2.01***	-4.24***
Age²	0.02***	-0.01***	0.03***
Female	-23.41***	-9.98***	-17.53***
Black	-36.27***	-30.52***	-2.30
Hispanic	-6.02**	1.47	-8.58***
Asian	-27.87***	-11.35**	-12.91***
Other Race	-1.88	-10.07**	8.43+
Years of Education	0.45	-0.78**	1.01***
Income	<0.01*	>-0.01*	>-0.01
Rural	3.69+	6.00***	-7.11***
Employed	-51.66***	-47.51***	-2.75*
Weekend	89.65***	64.06***	9.69***
β_0	319.45***	156.79***	155.23***
N = 57,787	R^2 = 0.16	R^2 = 0.20	R^2 = 0.05
+p<0.10; *p <.05; **p <.01; ***p<.001 (two-tailed test)			

Discussion and Conclusion

This study examines the extent to which people who live alone spend their days in ways that promote (or preempt) social integration. In this chapter, I establish nine measures of time use that may contribute to social integration or social isolation, including: time spent

explicitly socializing, attending voluntary association meetings, volunteering, time spent watching television, time spent in "third places", time spent at home, and time spent with others overall, with family only, or with non-family.

In summary, living alone is a mixed bag when it comes to indicators of social isolating or integrating time. In some ways, my findings contradict findings that people who live alone are more social (e.g. Klinenberg 2012; Alwin et al 1985). Overall, singletons spend much less time in the co-presence of others during leisure time. They also spend slightly more time watching television. In other ways, however, my findings support the counterintuitive argument that people who live alone are more integrated in their communities. Most of the time singletons aren't spending with others is accounted for by the fact that singletons do not live with family members with whom they would spend time as a matter of course. In fact, singletons spend more time beyond the home or in the co-presence of non-kin than their counterparts. This suggests that while singletons spend less time with others in absolute terms, they may be making concerted, purposeful efforts to leave home and spend time with others to counteract lost potential time with family members.

This chapter also showcases new ways to measure social integration and social isolation. Time use has been a relatively neglected measure in the pro-social literature, in favor of closed-ended stylized survey questions or network generators. Using time diaries to study social integration is beneficial in two ways.

First, closed-ended survey questions consistently feature social desirability bias. In recent years, network generators — once considered the gold standard in the pro-social literature — have been found to suffer considerable biases at the respondent (Bearman and Parigi 2004; Bailey and Marsden 1999; Brashears 2011) and interviewer level (Paik and Sanchagrin 2013). This is not to say that time use diaries do not suffer from limitations. They do. However, given the sensitivity of asking about social integration — especially among those who may suffer from loneliness — we may diminish (if not avoid) social desirability bias by using a more open-ended format.

Second, the open-ended format of time diaries allows researchers to investigate a much wider spectrum of behaviors that contribute to social integration or isolation. Rare is the survey that asks about each of the indicators I have used here in such detail.

While this study provides new ways to measure social integration, it does feature several limitations. One such limitation is that the dependent variables focus on face-to-face interactions. Smart phones allow for a variety of social behaviors, such as talking, texting, checking social media sites, and writing e-mails. Though not as "rich" as face-to-face communication (Walther 1992), these interactions are an important way that people maintain relationships in the 21st century (Chen 2013; Wellman et al 2001). Unfortunately, the ATUS is not well-equipped to measure socializing via mobile devices. This is due, in large part, to the fact that it does not capture secondary activities (with the exception of childcare). Thus, someone who spent time texting a friend while riding the bus home from work would only be counted as "Travel related to working." Future

research should assess the extent to which people who live alone use new media to help compensate for their day-to-day lack of familial interactions.

Second, several of the models measuring social integration featured poor model fit. The R^2 and pseudo-R^2 statistics were 0.05 or smaller for the models predicting time spent socializing explicitly, time spent in third places, time spent with friends and other non-family, volunteering, and attending voluntary associations. Much of this is due to the fact that these five variables were heavily zero-inflated (see Table 1.3). Nevertheless, the results for these models should be treated with extreme caution.

Finally, previous research has discussed the potential for selection effects when studying living alone and social integration, and this study does not do enough to mitigate this bias. Earlier research argued that living alone caused a variety of mental health disorders (e.g. Sainsbury 1955; Redick and Johnson 1974); however, this was later pointed out as a fallacious argument by Gove and Hughes (1980), since people who had poor mental health to begin with would both have little social interaction and choose (or be forced) to live alone. It is entirely possible that there exists a reciprocal effect between living alone and social integration. For instance, someone who feels socially integrated enough could choose to live alone since they would know they could easily socialize beyond the home. Future models should control for mental health and personality traits that might mediate the relationship between living alone and social integration. These would also potentially have the added benefit of increasing model fit.

Common sense might suggest that people who live alone lead less social lives. Our common sense, however, is better informed by empirical evidence. When the built-in social interactions that come with having a family are no longer there, it is, in some ways, comforting that people would behave in socially integrating ways, as opposed to the socially isolating ways suggested by some social scientists. Nevertheless, the experience of going solo may vary depending on certain key characteristics. It is to these characteristics that I turn in the next chapter.

Chapter 2: The Many Faces of One Person Households

What influences whether or not someone is integrated in their community? This question has been a key concern in sociology since the field's beginnings (Durkheim 1897; Tönnies 2011; Simmel 1972). Researchers have found that socially integrated individuals commit fewer crimes (Sampson and Groves 1989), have better employment opportunities (Erickson 2001; Lin and Dumin 1986), and are overall healthier and happier (House et al 1988; Kawachi and Berkman 2000). What's more, studies have shown that sociodemographic factors such as age (Cornwell, Laumann, and Schumm 2008; Rotolo 2000), gender (Gerstel 1988; Fischer 1982a), and employment (Wilson and Musick 1997; Tanuguchi 2006; Verbrugge 1983; Wilensky 1960) play a role in the extent to which individuals behave in socially integrating ways.

Today, it is a common assumption in the social science literature that living alone is inherently isolating (Bachrach 1980; Cornwell and Waite 2009; Holt-Lunstad et al 2015). Yet, some research suggests that this may not be the case for all people who live alone (Gove and Hughes 1980; Hughes and Gove 1981; Alwin et al 1985; Klinenberg 2012). Indeed, in the previous chapter, I found that living alone led to higher rates of some socially integrating behaviors.

Understanding the effects of living alone on social integration, however, requires understanding that singletons are a diverse group of people. As of 2012, singletons made up 27% of households in the United States (Vespa et al 2013). How does the demographic composition of singletons look like relative to the general population with

regards to age, gender, and employment? And how might those factors influence social integration or isolation?

The goal of this chapter is to answer these questions. After reviewing the state of the literature on living alone and socially integrating behaviors, I first offer a series of descriptive statistics to describe the demographic landscape of living alone. I then run a series of multivariate analyses, making heavy use of interaction effects between different ages, genders, and employment statuses. My findings shed new light on how the experience of living alone may be particularly impactful for certain demographics (e.g. women, especially among the elderly).

By using the large sample size of the 2010-2014 American Time Use Survey (N = 57,787), I can readily split my sample by different sociodemographic statuses. While the previous chapter examined the differences *between* singletons and non-singletons, this chapter takes the differences *among* singletons and non-singletons as its focus. Interactions help uncover how the effects of different variables may vary at different values of one another. They carry with them the understanding that regression coefficients can affect different statuses in meaningfully distinct ways. I now turn to a discussion of the literature on living alone, age, gender, and employment, and social integration.

The Many Faces of One Person Households

In this section, I discuss how several sociodemographic statuses — age, gender, and employment — have been discussed in regards to living alone, social isolation, and integration in previous research.

Age, Living Alone, and Social Integration

The reasons for living alone differ across the life course. Most of those who live alone in early age do so because they have never married and can afford living without a roommate (Klinenberg 2012). Going solo in middle age, on the other hand, typically involves divorce or separation (Gerstel 1988; Klinenberg 2012). In general, however, living alone is far more common among the elderly, especially older women, due to the death of a spouse (Victor et al 2000; Arling 1976). Much of the research on living alone takes place in a gerontological context, with little discussion of living alone during middle or younger ages.

This focus is largely due to concerns about social isolation among the elderly, which affects men and women differently (Demura and Sato 2003; Victor et al 2000). The elderly, especially women who live alone (Torres 2014a), have much higher poverty rates (Minkler and Stone 1985; Carr 2010). Elderly women who perceive they have less social support from family and friends tend to have poorer mental and physical health (Thompson and Heller 1990). Elderly men, however, have some of the highest rates of suicide, especially after the death of a spouse (Canetto 2015). They are also much less likely to receive help during an environmental crisis due to their lack of social ties

(Klinenberg 2003). We can therefore expect social isolation to be higher among the elderly, keeping in mind that social isolation may affect elderly women and men in different ways.

In other ways, however, old age can increase community involvement (Cornwell, Laumann, and Schumm 2008). Face-to-face interactions with family and friends (Bachrach 1980) and going to restaurants and bars (Torres 2014b) play a large role in helping the elderly to stave off loneliness. Older Americans have higher rates of volunteering (Goss 1999) and remain active in voluntary associations (Curtis, Grabb, and Baer 1992). As family ties become less and less available, friendships play an increasingly important role in ameliorating social isolation among the elderly (Victor et al 2000; Litwin 2001). Even people who live alone may become more involved. Indeed, in his qualitative study of living alone, Klinenberg (2012) found that while some elderly singletons became shut-ins, others remained relatively active, by walking along the boardwalk, taking exercise classes, volunteering, and participating in talent shows. There is therefore reason to believe that some socially integrating behaviors may be more prevalent among the elderly, particularly among those who live alone.

How much does the time spent in socially integrating or isolating behaviors differ depending on whether or not someone lives alone and how old they are? Might there be differences among men and women in different age groups? In this study, I include both age and age-squared in my models to help answer these questions. Including age-squared allows for any curvilinear effects of age to be accounted for in the model.

Gender, Living Alone, and Social Integration

A plethora of studies have investigated how men and women orient themselves differently when it comes to socially integrating behaviors. Women are often cited as being more adept at avoiding social isolation (Fischer 1982a; Rubin 1985; Adams and Allan 1998). In heterosexual marriages, women tend to be in charge of maintaining ties with friends (Bell 1981), neighbors, and family (O'Donnell 1985). Men, on the other hand, are more likely to join voluntary associations than women (Inglehart and Norris 2003; McPherson and Smith-Lovin 1986). Some research suggests that this may be due to the fact that women cannot always safely participate in the public sphere at night (Caiazza 2005).

Currently, there is little research on how women and men may experience living alone differently with regards to community involvement and social ties. However, some research does examine the inverse — the social isolation of men and women who live in families. Some sociologists point out that marriage is a "greedy institution" that can weaken community ties as its members look ever inward to one another's social needs (Coser 1974; Gerstel and Sarkisian 2006). Gerstel and Sarkisian (2006) find that married men and women alike are less likely to socialize with neighbors and friends. Marriage may negatively impact extended family ties, too. Sarkisian and Gerstel (2008) found that single respondents were more likely to give emotional support to parents and siblings than their married counterparts. And while singletons have lower rates of volunteering

overall, they are more likely to volunteer without having been asked than their married counterparts (Bryant, Jeon-Slaughter, Kang, and Tax 2003). The tacit assumption throughout this body of research is that male and female singletons may be more involved in their communities as compared to their non-solo counterparts.

How might women and men experience socially integrating behaviors differently when they live alone? One of the trends throughout Klinenberg's (2012) *Going Solo* is that living alone can be particularly invigorating for women. These women enjoy the freedom afforded by not taking care of a household's worth of housework (divorced men, on the other hand, often report missing their wives taking care of the housework, go figure). Following a divorce, men and women reshape their ties in disparate ways: women tend to invest more heavily in making pre-existing ties stronger, while men tend to make entirely new ties in voluntary associations, restaurants, and bars (Gerstel 1988). In short, we have reason to believe that women and men who live alone will behave in different socially integrating ways.

So, are women and men who live alone engaging in more socially integrating behaviors than women and men who live with others? To what extent does gender matter among those who live alone versus those who don't with regards to socially isolating or integrating behaviors? In this study, I code gender as a dummy variable, with female given a value of 1, to help answer these questions.

Employment, Living Alone, and Social Integration

There is currently a dearth of research on how employment or unemployment may affect people who live alone or with others differently. There is, however, research on how employment (or unemployment) play a role in social integration. Verbrugge (1983), for instance, finds that employment leads to better mental health outcomes due to its integrating effects, with particularly strong effects for women. While the number of hours worked by someone constrains the amount of time they have for volunteering (Rossi 2001) or voluntary associations (McPherson 1983), it also affects the amount of time they have to watch television (Hughes 1980) or leave the house (Wilensky 1960). Moreover, Taniguchi (2006: 86) writes that "individuals with stronger labor-force attachment are more fully integrated into the broader society, and as a result, they may be exposed to more opportunities to volunteer." In fact, research shows that professionals and managers — often considered the most pressed for time — actually volunteer the most (Wilson and Music 1997). And though retirees are a big source for volunteer work (Goss 1999), evidence that retirees fill their lack of work hours with volunteering is inconclusive (Wilson 2000).

Does employment affect people who live alone and people who live with others differently when it comes to socially integrating behaviors? I control for employment as a dichotomous measure in my analyses to help answer these questions. Having discussed each of my independent measures, I now turn to my data and methods for this study.

Data and Methods

About the ATUS

As in the previous chapter, this study uses data from the 2010-2014 American Time Use Survey, which asks a nationally representative sample of Americans about how they use their time on a randomly sampled day. By pooling five years of data, I have access to a large enough sample (N = 57,787) to group my sample in different ways and run various interactions. Singletons comprise n = 15,319 respondents in the sample which allows for far more robust results and more flexible analyses than would have been possible in other surveys. For additional information on the ATUS and its benefits, turn to Chapter 1.

Dependent Variables

In this study, I continue using the nine dependent variables laid out in Chapter 1. These include pro- and anti-social measures of what the respondent was doing, where they were, and whom they were with. Recall that these variables include time spent socializing under the explicit ATUS codes; time spent watching television; volunteering; attending a voluntary association meeting; time spent at home; time spent in "third places" (i.e. restaurants, bars, coffee shops, etc); leisure time spent with others overall; leisure time spent with family; and leisure time spent with friends, neighbors, co-workers, and other non-kin. Recall also that two variables in particular — time spent at voluntary associations and time spent volunteering — suffer from an abundance of zeros. This is by no means unsurprising, since both activities happen for a small portion of the population

and relatively infrequently. For these two variables, I've chosen to use logistic regression to predict whether or not a respondent spent any time in these activities during their reported day. For a more detailed discussion of my dependent variables, see Chapter 1.

Analysis Plan

This study offers (1) descriptive statistics of singletons and (2) a series of multivariate regressions predicting pro- or anti-social behavior featuring interaction terms. Including interaction terms allows me to determine how the effects of living alone, age, gender, and employment may vary at different values of one another.

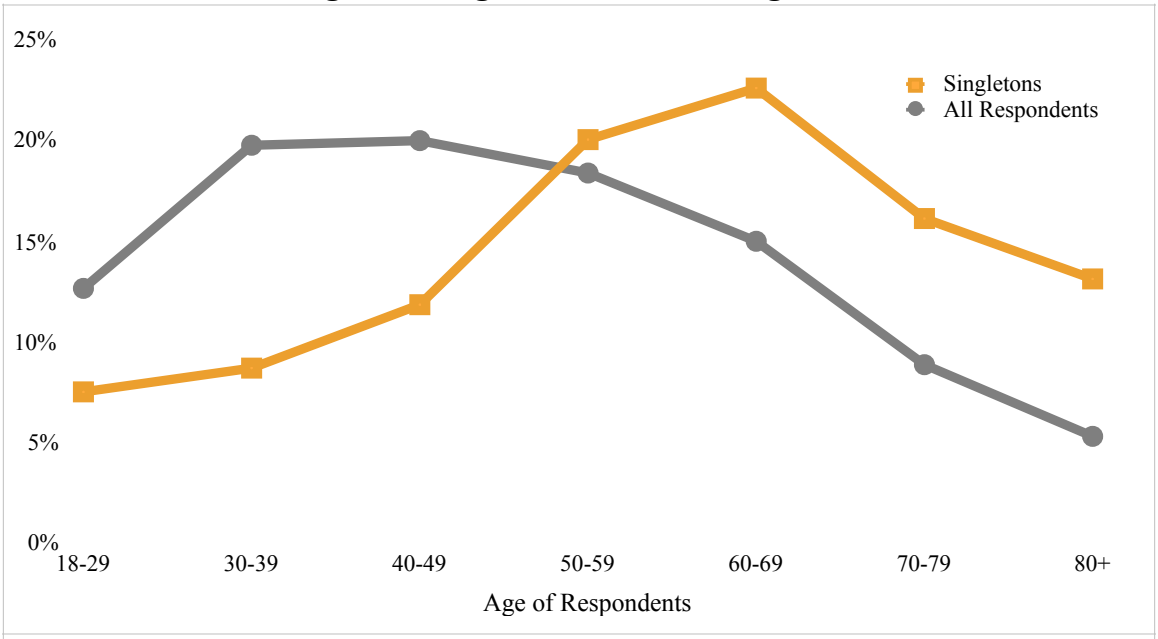
In my first series of regression models, I split my sample by singleton status, which allows me to look at the differences in social integration among singletons and non-singletons in regards to age, gender, and employment. I also conduct a series of three-way interactions. These include (1) a three way interaction between singleton status, gender, and age and (2) a three way interaction between singleton status, age, and employment. For more discussion of my use of OLS, see Chapter 1. For ease of interpretation, I make heavy use of figures in this chapter. Interested readers can find the regression tables for each dependent variable in Appendix A, and additional results from my exploratory two-way interactions on several of my other controls in Appendix B. I discuss my findings on the interactions between singleton, age, gender, and employment in the sections that follow.

Age, gender, and employment distributions for singletons

People who live alone are different from people who live with a spouse or children in many ways. In this section, I offer some descriptive statistics and figures that highlight some of these differences, paying particular attention to age, gender, and employment. I compare the n = 15,319 singletons with the overall sample of n = 57,787 respondents over 18 included in the 2010-2014 ATUS.

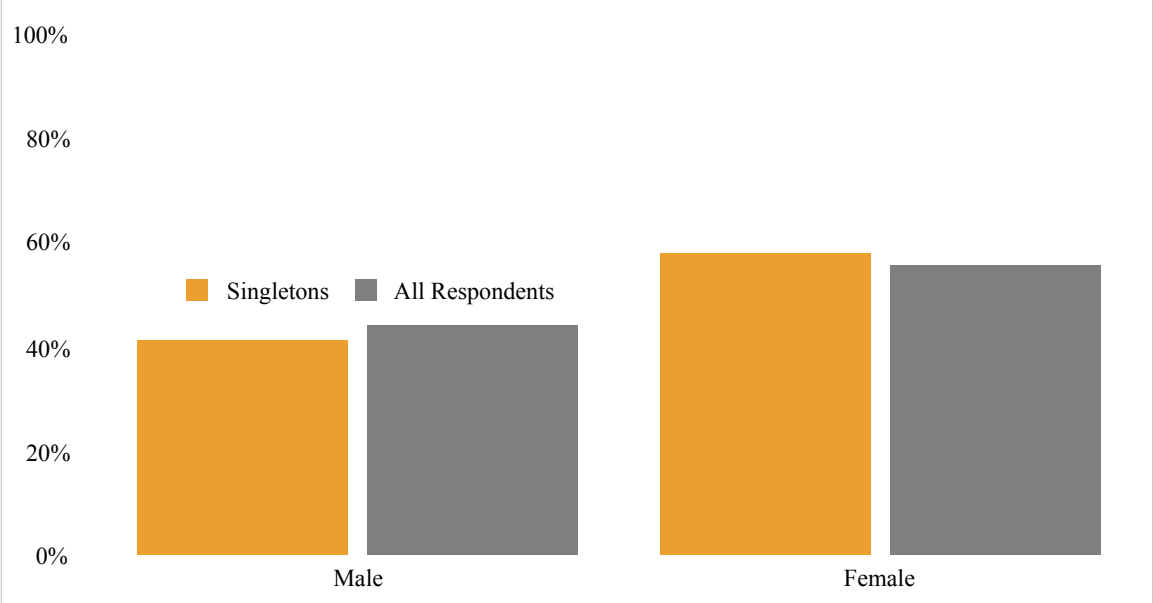
Age is perhaps the most glaring difference between singletons and the overall population. Figure 2.1 shows the age distribution among singletons and the overall population. Here, we see in the overall sample that respondents are nicely distributed from about 30 to 69 years old, and then the distribution starts to really decline with age. By contrast, the distribution of singletons really picks up at mid-life, and remains higher among the elderly than in the overall population. Only 5.3% of the overall sample is over the age of 80; compare this with 13.1% of singletons. On average, singletons are about 58.5 years old, while the rest of the sample that mean is 49 years old. In short, singletons tend to be older.

Figure 2.1: Age Distribution of Singletons



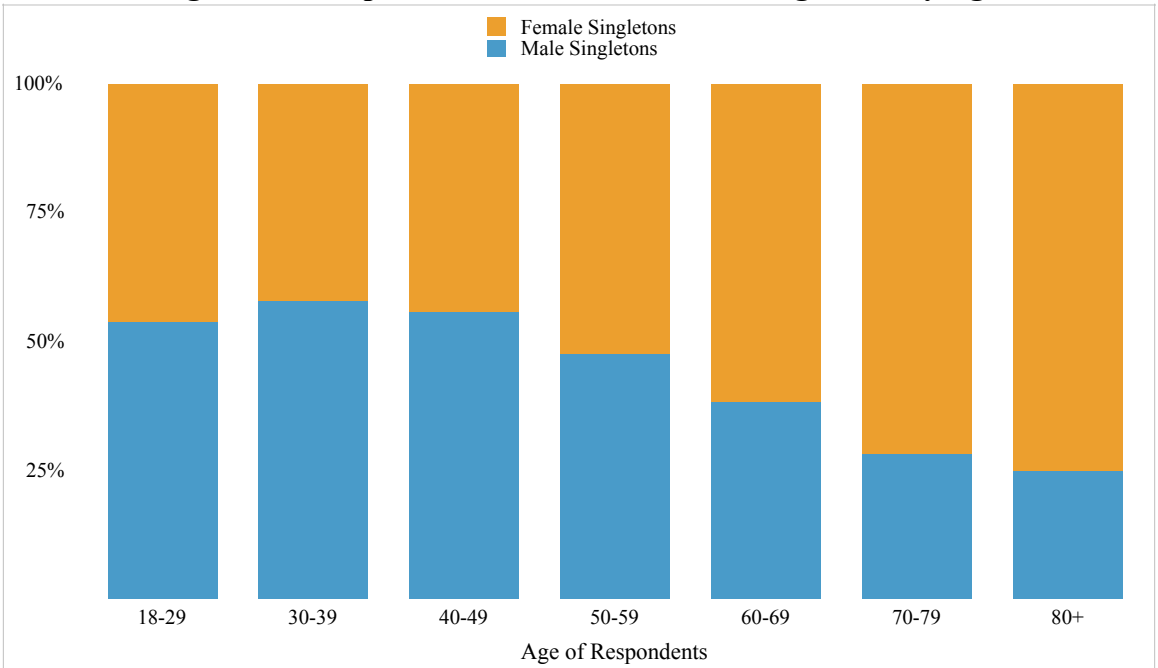
Source: The American Time Use Survey, 2010-2014.

Figure 2.2: Gender Distribution of Singletons



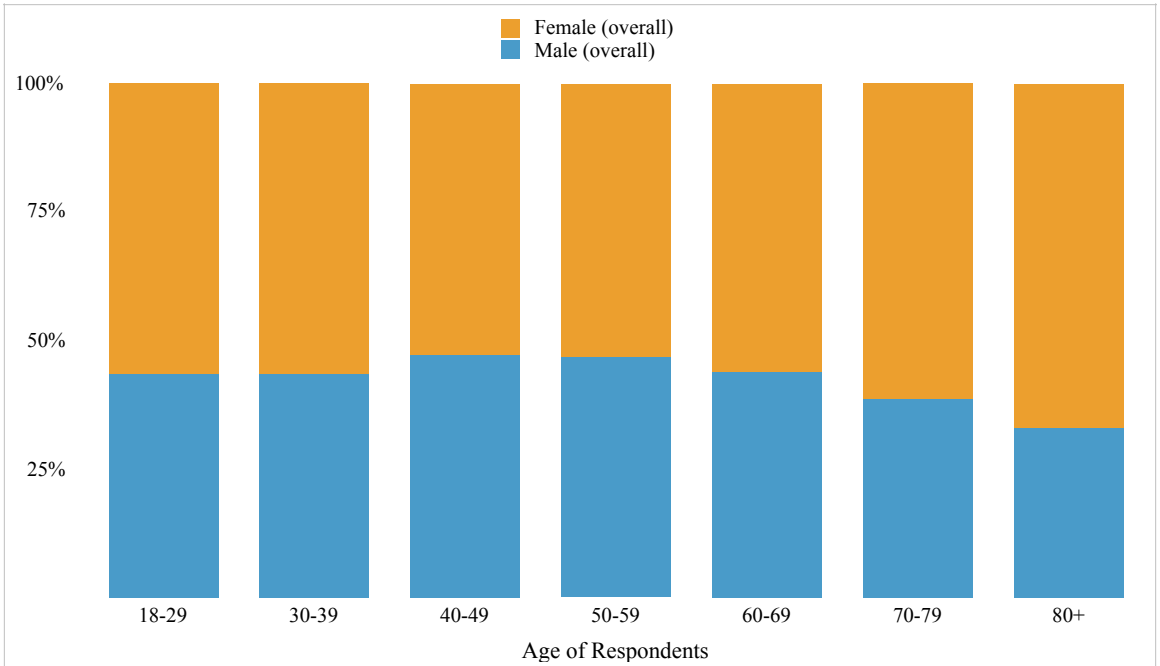
Source: The American Time Use Survey, 2010-2014.

Figure 2.3: Proportion of Men and Women Singletons, by Age



Source: The American Time Use Survey, 2010-2014.

Figure 2.4: Proportion of Men and Women Respondents, by Age

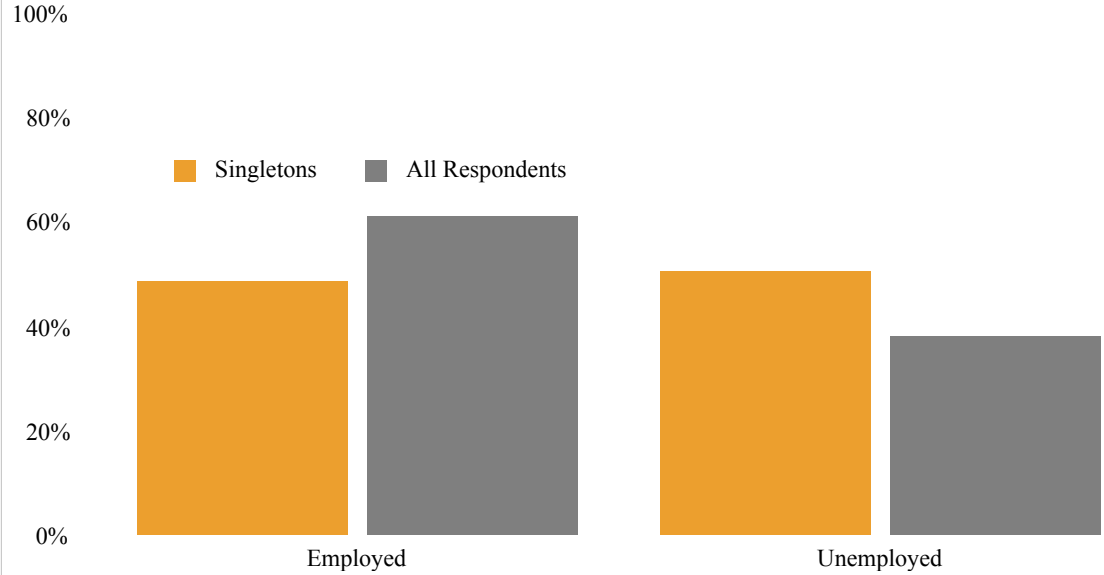


Source: The American Time Use Survey, 2010-2014.

As we see in Figure 2.2, women tend to be slightly more represented (58.5%) among singletons than in the overall sample, where they are 55.8% of the sample. But let's look at this by age, too. Figure 2.3 shows the proportion of women and men, by age, among singletons. We see here that before the age of 50, men are much more represented among people who live alone than women. This peaks between the ages of 30-39, where men constitute 57.7% of singletons. However, after the age of 50, the proportion of men sharply decreases, and by ages 70-79, only 27.9% of singletons are men. In Figure 2.4, we see that this mirrors an overall trend in the data — there are simply fewer men in the sample by that point — however the difference in distribution among men and women is much more distinct among singletons.

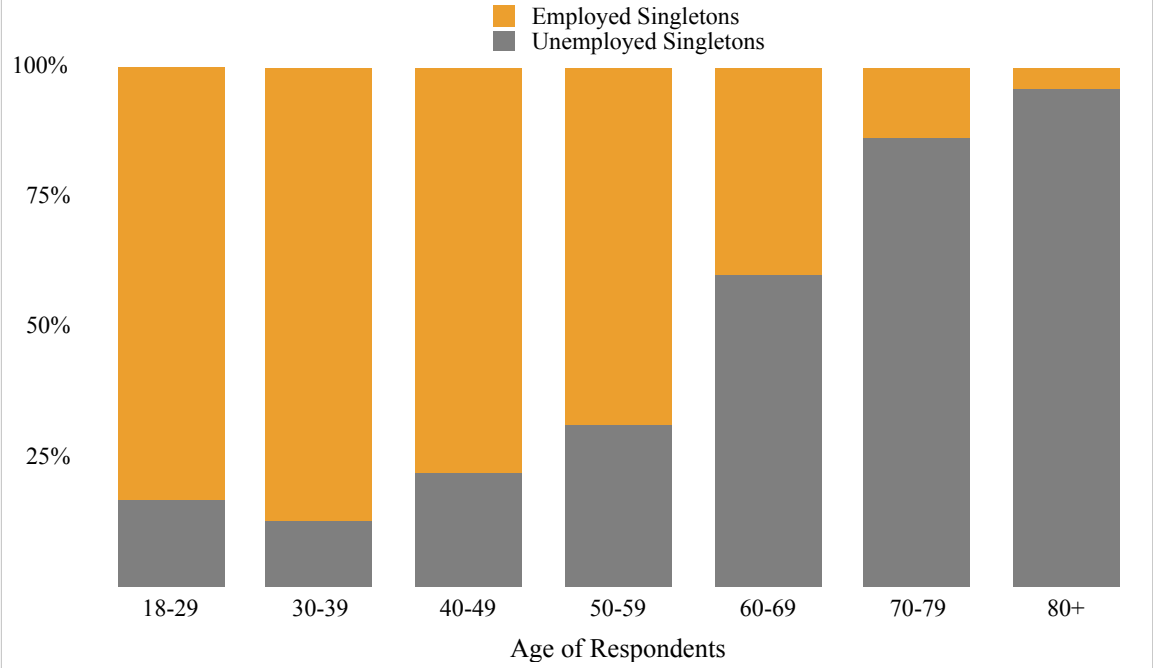
Singletons also look slightly different in terms of employment when compared to the overall sample, as seen in Figure 2.5. More singletons are unemployed than in the overall sample; however, this is due once again to the fact that singletons tend to be older, as discussed above. Figure 2.6 and Figure 2.7 offer a comparison of employment by age, with Figure 2.6 showing the rates for singletons and Figure 2.7 showing the rates for the overall sample. Here we see that the rates of employment are actually higher for singletons below the age of 40 compared to the overall sample, and roughly equivalent to the rates of the overall sample after that.

Figure 2.5: Employment Distribution of Singletons



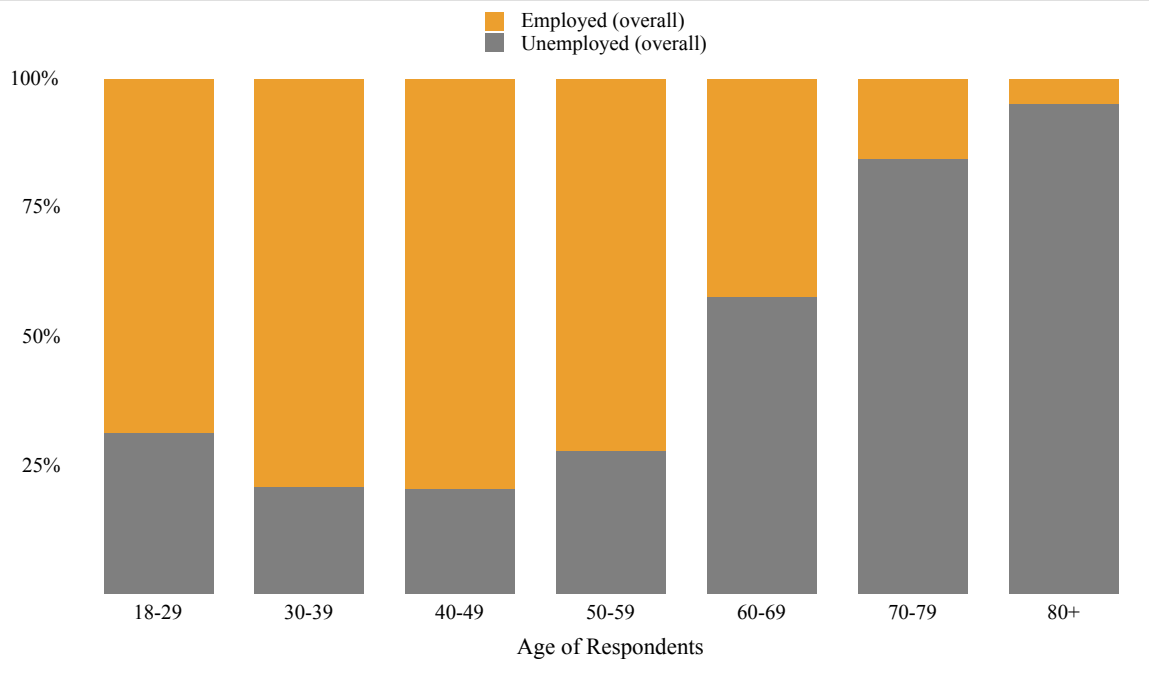
Source: The American Time Use Survey, 2010-2014.

Figure 2.6: Employment Distribution of Singletons, by Age



Source: The American Time Use Survey, 2010-2014.

Figure 2.7: Employment Distribution of Respondents, by Age



Source: The American Time Use Survey, 2010-2014.

To summarize, the demographic makeup of people who live alone along age, gender, and employment looks somewhat different from the overall population. Singletons tend to be older. Among the young, singletons are about evenly split between men and women; however, among the elderly it is much more common to see women live alone than men. On the whole, singletons tend to have lower rates of employment than the overall sample; however, this is almost entirely explained by the fact that singletons tend to be older, when unemployment rates are higher overall. Having described the distribution of age, gender, and employment among singletons, I now explore how these three factors interact with living alone to predict different facets of social integration.

Do demographic differences among singletons explain differences in social integration?

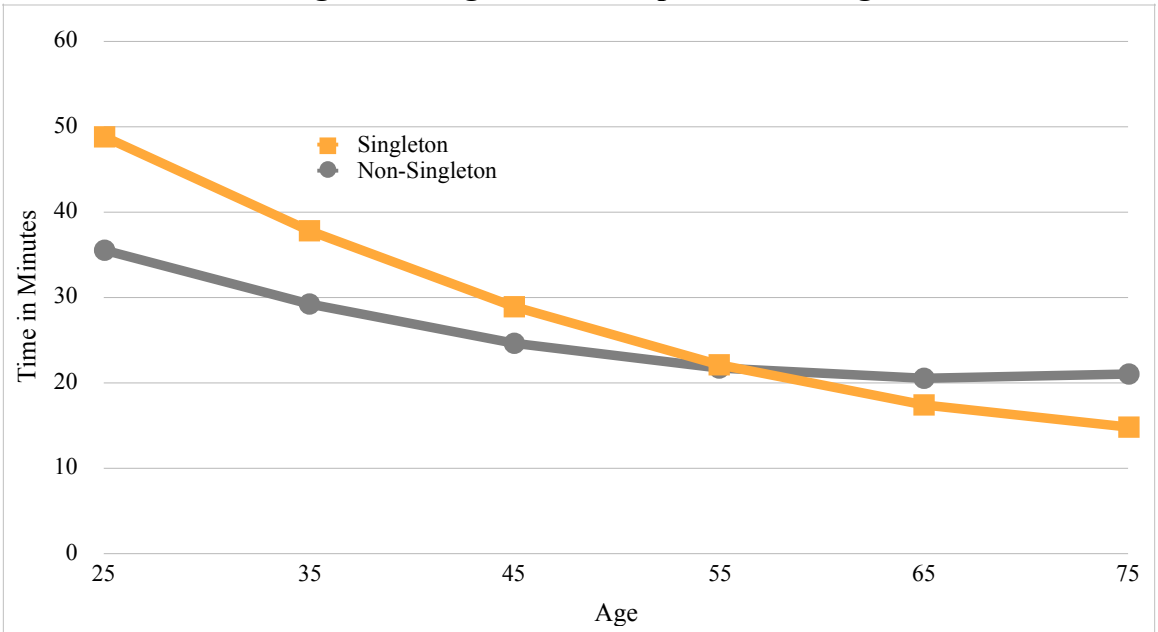
In this section, I walk through the results from my multivariate analyses, stratified on whether the respondent lives alone or with others, gender, age, and employment. This section makes heavy use of figures to convey the interactions between these variables. For ease of interpretation, I have chosen to share my findings as figures, rather than tables so as not to overwhelm the reader with interpreting interactions (interested readers will find the regression tables in Appendix A). The *p*-values for each of the coefficients discussed here are <0.001 unless otherwise noted. Furthermore, as part of my larger goal to understand singletons as a diverse population, I also ran two-way interactions on singleton and income, education, living in a rural location, and race/ethnicity. A discussion of these results can be found in Appendix B.

How age matters

I will first discuss the results from my two-way interactions between singleton and age. What becomes clear from the figures that follow is just how important age truly is to singletons' socially integrating (or isolating) behaviors.

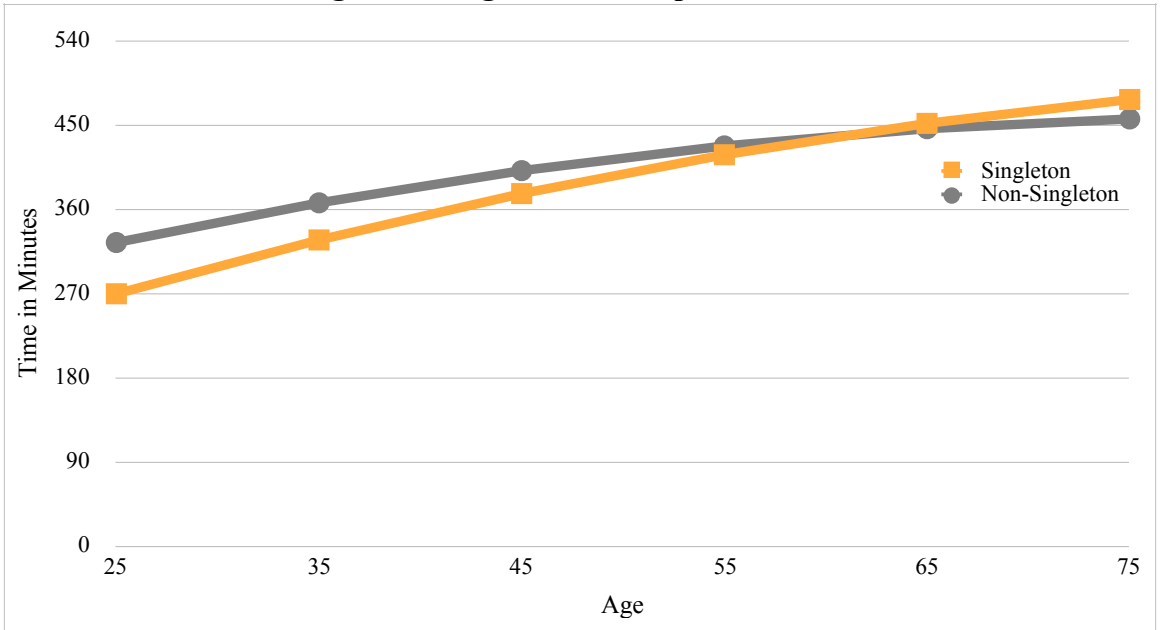
Generally speaking, older singletons were worse off than younger ones. When all else is kept constant, singletons in their 20s and 30s spend about 13 more minutes on any given day socializing than their non-solo counterparts; however, by the time respondents reach their 60s and 70s, singletons spent less time socializing, as shown in Figure 2.8.

Figure 2.8: Age and Time Spent Socializing



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Figure 2.9: Age and Time Spent at Home



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

There's a similar trend for time spent at home. In Figure 2.9, we see that younger non-singletons spend less time at home. However, as time goes on, the differences between singletons and non-singletons begin to diminish. Eventually, singletons come to surpass non-singletons in time spent at home and by age 75, they'd be expected to spend about 20 more minutes at home than their non-solo counterparts.

We also see, in Figure 2.10, that singletons are more likely to attend voluntary association meetings than their non-solo counterparts across ages, particularly middle age; however, the gap between singletons and non-singletons is all but closed by the time respondents are in their 70s. And, at the highest difference between singletons and non-singletons during their 40s and 50s, the probability of attending a voluntary association meeting on a given day is only about 0.003 higher, which is hardly a difference.[6]

In some ways, older singletons were better off than their non-solo counterparts, though. Take, for instance, the rate of watching television, visualized in Figure 2.11. While the rate of watching television is slightly higher for middle-aged singletons compared to those who live with others, the most elderly of singletons actually watch *fewer* minutes of television than those who live with others by about half an hour, ceteris paribus.[7] Singletons — when controlling for gender and other variables — spent more

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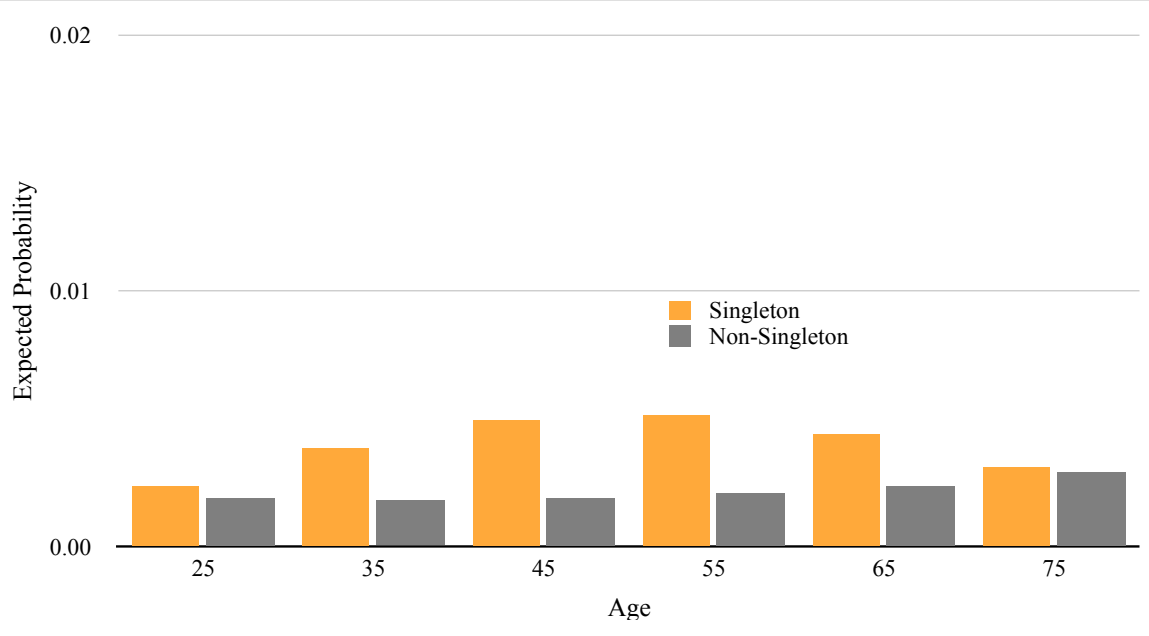
[6] Furthermore, it should be noted here that while the coefficients for age and age-squared were significant at the $p < 0.001$ level among singletons, they were entirely insignificant among people who lived with others.

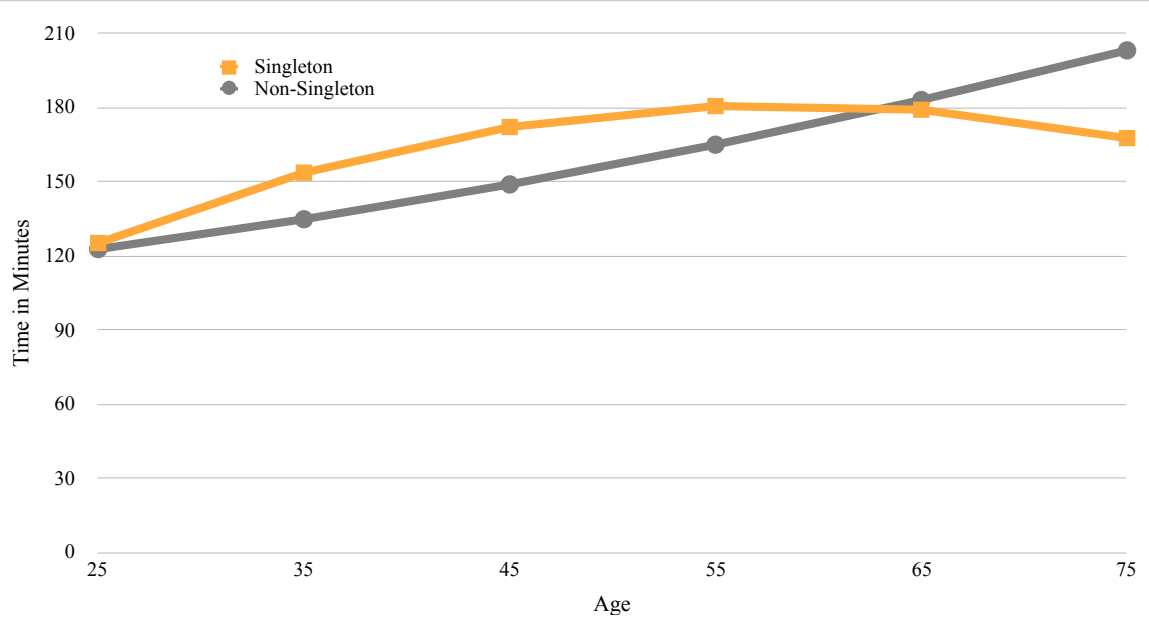
[7] The p-value for time spent watching television among non-singletons was significant at the $p < 0.05$ level for age, but the $p < 0.001$ level for age-squared.

Figure 2.10: Age and Expected Probability of Attending an Association Meeting



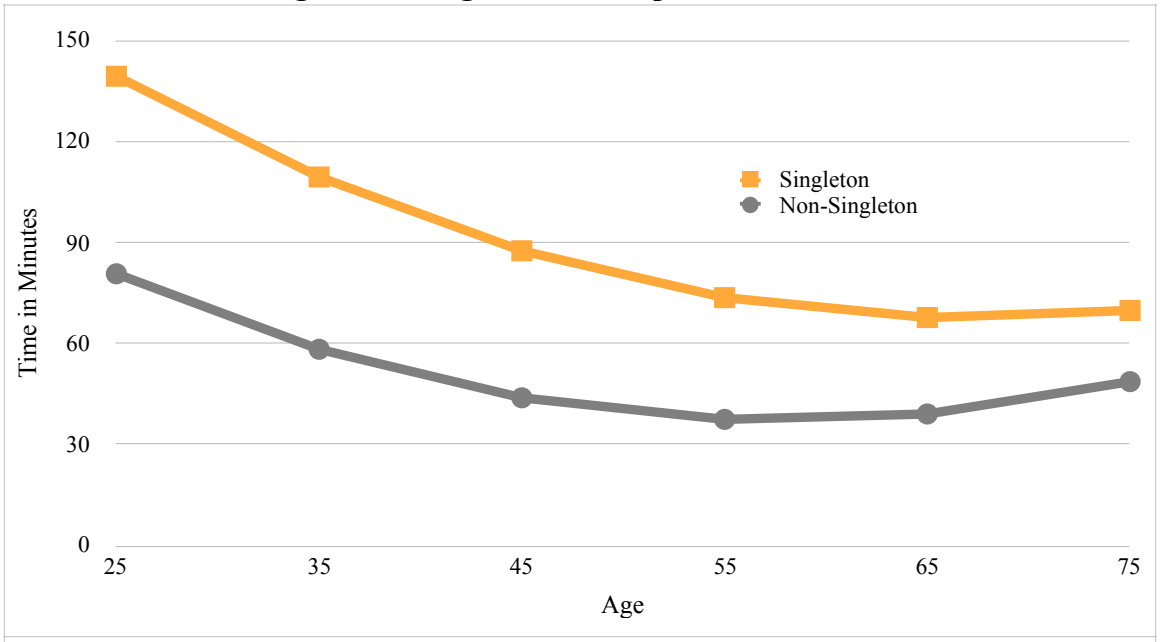
Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Figure 2.11: Age and Time Spent Watching Television



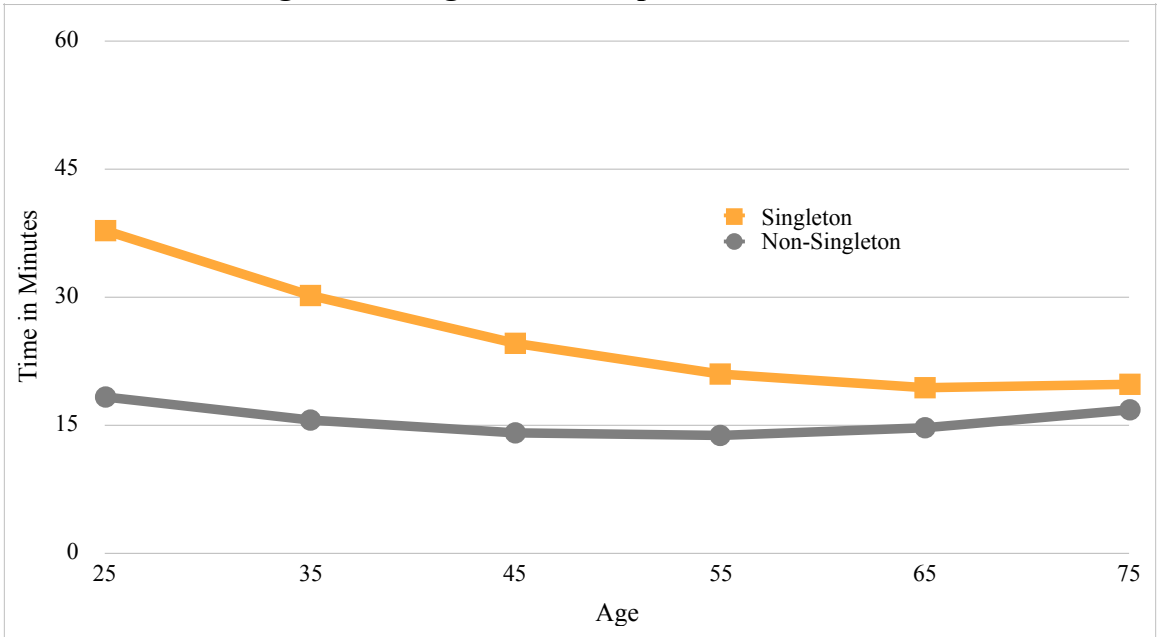
Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Figure 2.12: Age and Time Spent with Friends



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Figure 2.13: Age and Time Spent in Third Places



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

time with friends (see Figure 2.12) and more time in third places (see Figure 2.13) even into old age. So, among the elderly, going solo may not be so bad.

In other ways, though, older singletons were worse off than their non-solo counterparts. They spend considerably less time with others, as demonstrated in Figure 2.14. When controlling for other factors, a 75-year-old singleton spends about 2 and a half fewer hours on any given day with others than a 75-year-old who doesn't live alone. This is a startling figure. That being said, much of this difference — as we saw in Chapter 1 — can be accounted for by the fact that singletons inherently have fewer opportunities to interact with family at home. Unfortunately, the coefficients for age and age-squared among singletons predicting family time were in no way significant, and their standard errors meant that the effects could have been negative or positive.[8]

To summarize, age can take a toll on pro-social behaviors for both those who live alone and with others. Generally, younger singletons are better off socially than both older singletons and younger non-singletons. Singletons regardless of age tend to spend more time in bars and restaurants and more time with friends. However, as the years go on, many of the differences between singletons and non-singletons begin to diminish. And age exacerbates going solo when it comes to overall time spent with others.

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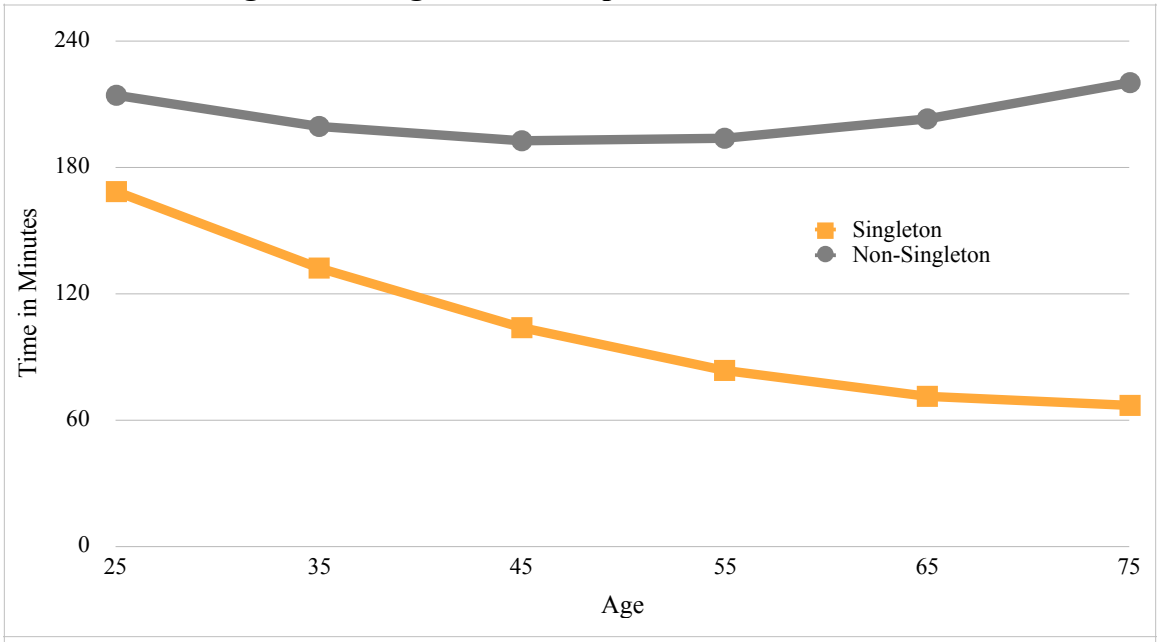
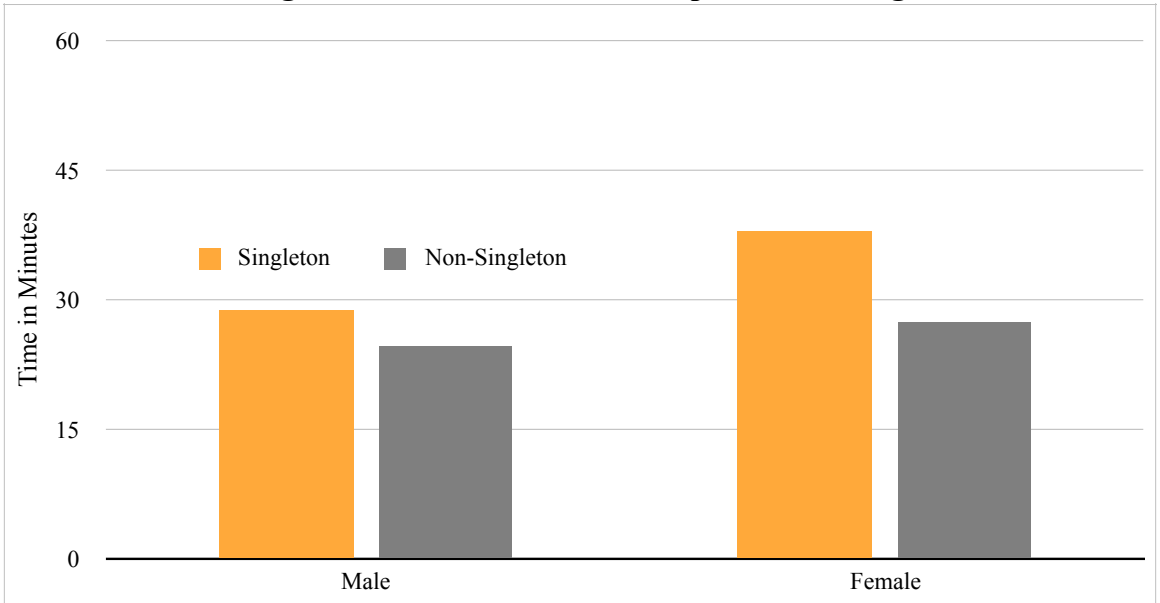
[8] When predicting social time with family among singletons, the coefficient for age was -0.23 with a standard error of 0.33 and a *p*-value of 0.49. The coefficient for age-squared was similarly disappointing at -0.00009 and a standard error of 0.003, with a *p*-value of 0.98.

Figure 2.14: Age and Time Spent with Others Overall



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Figure 2.15: Gender and Time Spent Socializing



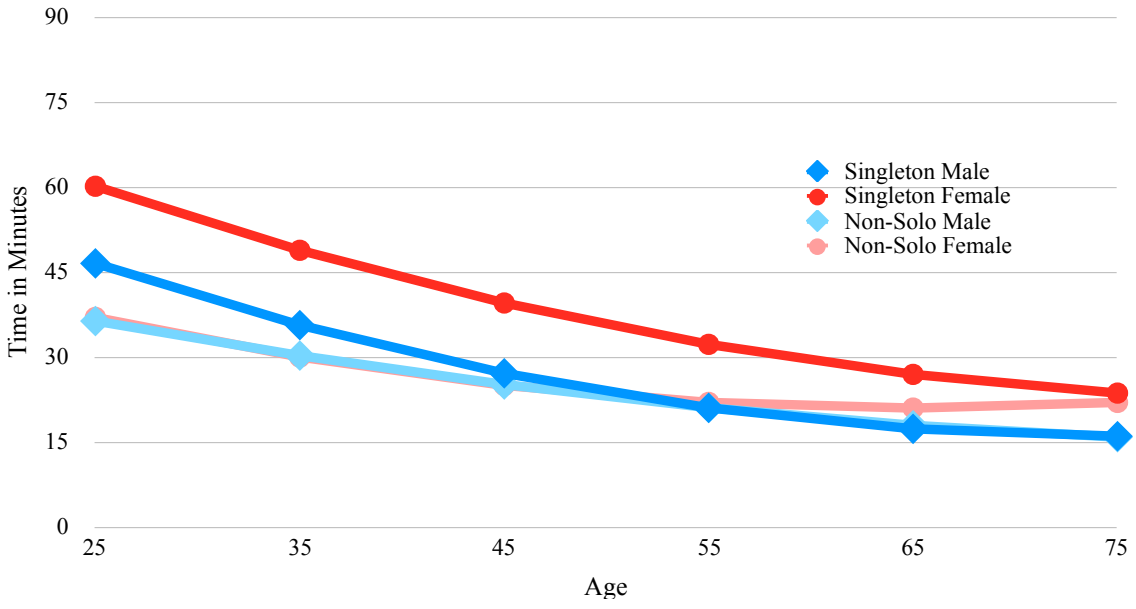
Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

How gender matters

I now turn to my results from interacting gender and living alone. In some cases, where results for age and age-squared were significant after grouping my sample by both age and gender, I also include a discussion of three-way interactions between singleton status, gender, and age.

In some ways, female singletons are more pro-social than both male singletons and female respondents who live with others. Female singletons spend the most time explicitly socializing, as portrayed in Figure 2.15. The beta-coefficient for female among singletons is $\beta = 8.97$, compared to that of non-singletons, $\beta = 2.90$. All in all, female

Figure 2.16: Gender, Age, and Time Spent Socializing



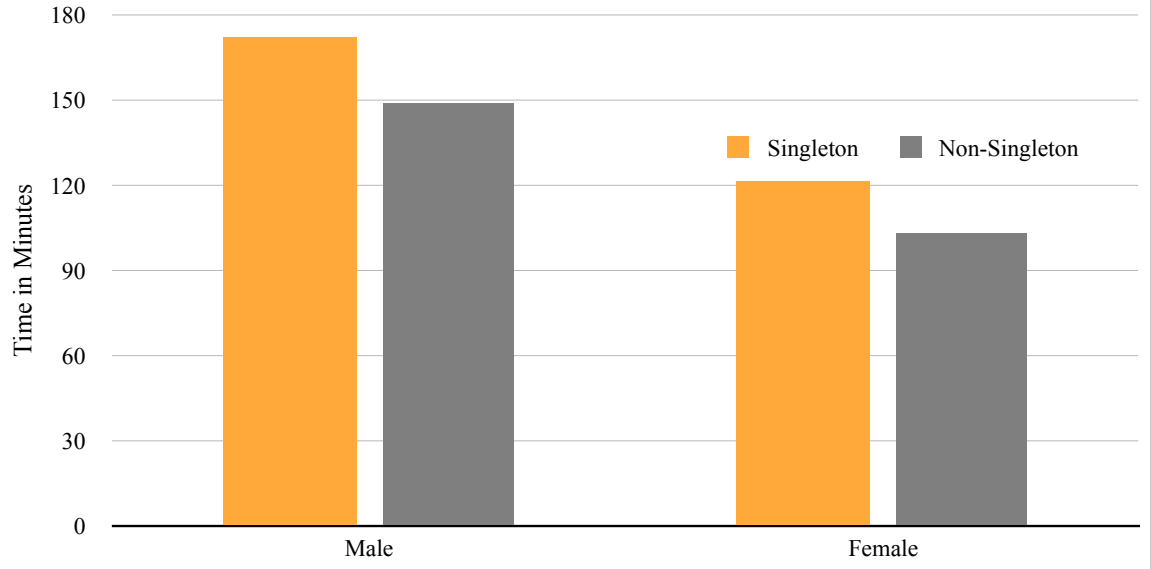
Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Note: For the most part, age and age-squared were significant at the $p < 0.001$ level across all four regressions, with two exceptions. The coefficient for age-squared among singleton females came back as $p = 0.006$, and the coefficient for age-squared among non-singleton males was $p = 0.048$.

singletons are predicted to spend more time socializing under the ATUS codes than both male singletons and female non-singletons, when controlling for other variables. Indeed, when we look at the interaction between singleton status, gender, and age in Figure 2.16, we can see that women who live alone spend consistently more time socializing with others based on the explicit ATUS code across age.

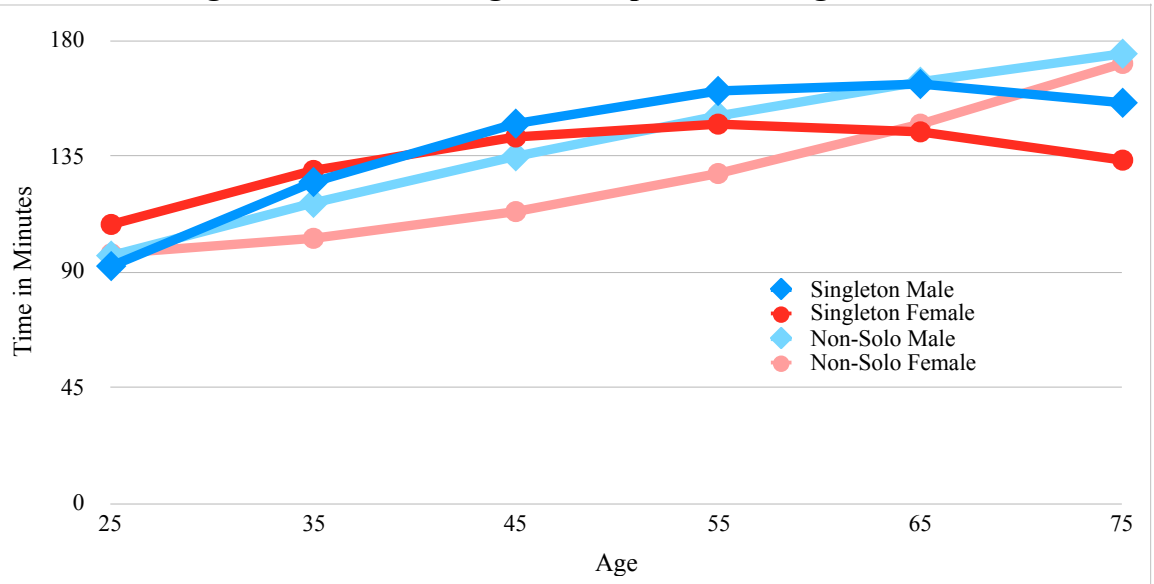
Women who go solo also watch less television than men who go solo by about 51 minutes, though they still watch about 20 more minutes than women who live with others on average (see Figure 2.17). Interestingly, when we look at television watching among singletons and non-singletons by age and gender in Figure 2.18, we can see that upon

Figure 2.17: Gender and Time Spent Watching Television



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Figure 2.18: Gender, Age, Time Spent Watching Television

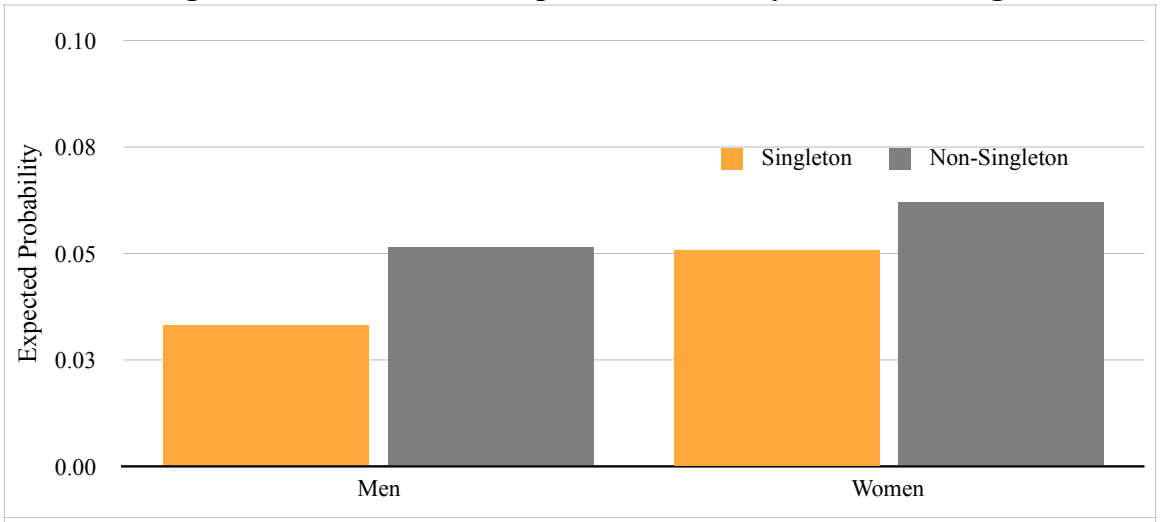


Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Note: For the most part, age and age-squared were significant at the $p < 0.001$ level across all four regressions, with two exceptions. The coefficient for age-squared among non-singleton males came back as $p = 0.023$, and the coefficient for age among non-singleton females was $p = 0.045$.

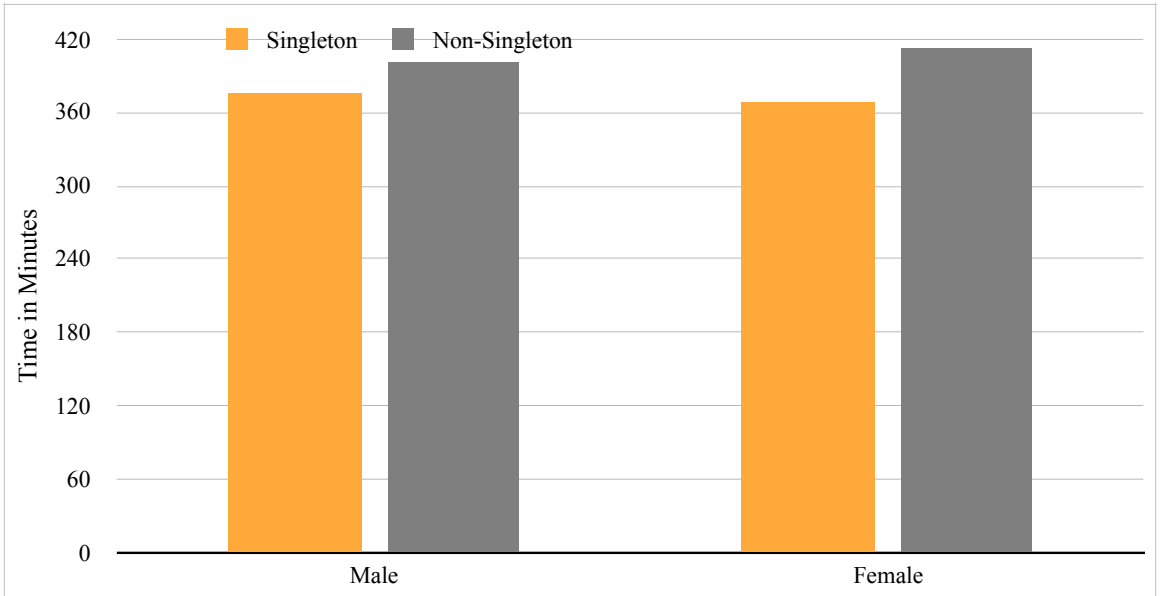
reaching middle age and beyond, female singletons have a sharper dip in television watching compared to male singletons, and watch the least amount of television compared to men and women who live with others. Among singletons, women are 1.55 times more likely to volunteer on any given day, too; however, they are still less likely to volunteer than any person, male or female, who lives with others when other factors are controlled for (see Figure 2.19).

Figure 2.19: Gender and Expected Probability of Volunteering



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

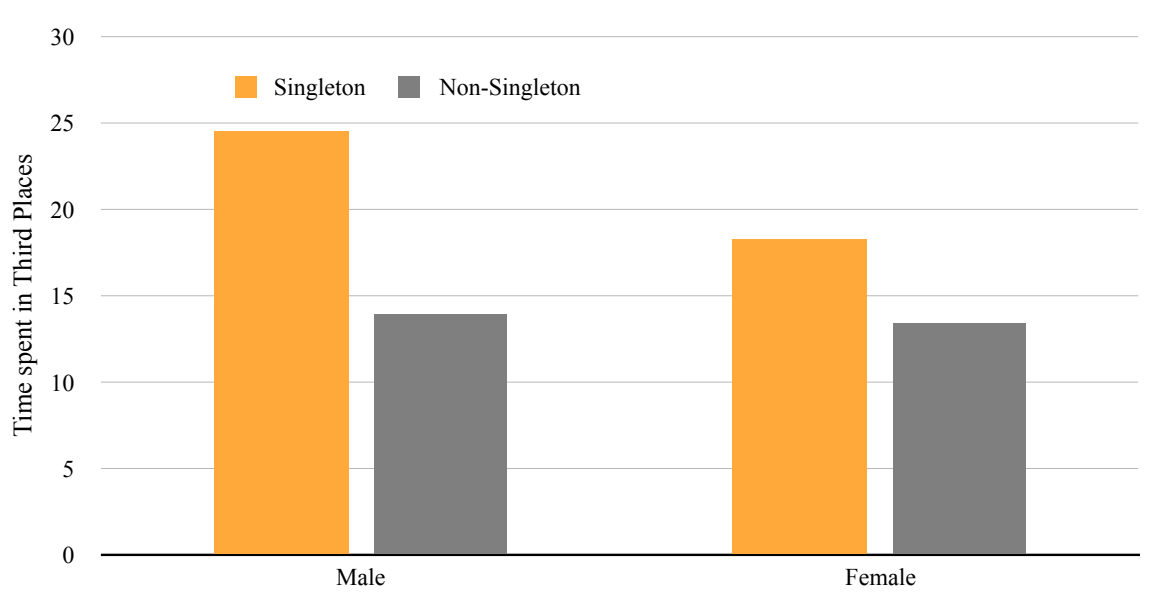
Figure 2.20: Gender and Time Spent at Home



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

In other ways, gender matters slightly less for singletons than it does for people who live with others. Both men and women who live alone spend much less time at home (see Figure 2.20), and though women singletons spend even less time, it's only by about 8 minutes. Women who live with others, however, spend about 13 more minutes at home than men who live with others.

Figure 2.21: Gender and Time Spent in Third Places



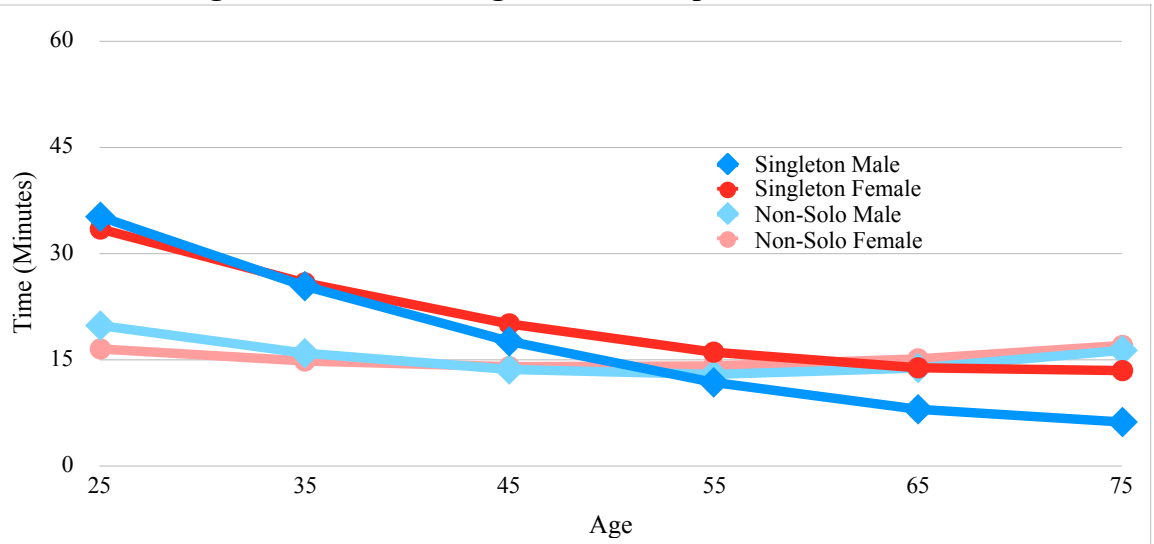
Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

However, in some cases gender made a larger difference for those who live alone than those who live with others. Men who live alone tend to spend more time in bars and restaurants than women who live alone, as shown in Figure 2.21. Interestingly, the coefficient for female among those who live with others was neither statistically nor substantively significant, with a p-value of 0.207 and β = -0.58. Indeed, we can see in

Figure 2.21 that the rates of going to third places are roughly equivalent among men and women who live with others. This makes it all the more interesting, then, that such differences exist between men and women who live alone, with a $p < 0.001$ and $\beta = -6.28$ for the coefficient for female.

And what happens when we bring age into the equation? It turns out that the differences between men and women who live alone look even more stark. Figure 2.22 shows the amount of time respondents would be predicted to spend in restaurants and bars when grouped by living alone or not, gender, and age. Here we see that men and women who don't live alone tend to look similar throughout the life course with how much they go out to third places. Like we saw in Figure 2.13 above, there's a decline in time spent in third places by age among singletons. Interestingly, men and women in their 20s and 30s who live alone spend roughly the same amount of time in bars and restaurants; yet, starting in middle age it is actually *women* singletons who spend more time in third places. In fact, by the time solo male respondents reach their 60s and 70s, they are far less likely to go out to third places.

Figure 2.22: Gender, Age, and Time Spent in Third Places



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural whites with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Though people who live alone spend less time than their non-solo counterparts with others due to their lessened contact with family, men and women who live alone both spend roughly the same amount of time with others on a given day. The difference is about 5 minutes, and is only statistically significant at the $p < 0.100$ level. Compare this to the difference between men and women who live with others, with a $p < 0.001$ and a full 28 fewer minutes spent with others, when all other variables are controlled for.

The differences between whom male and female singletons spend their time with, however, are worth noting. While singletons overall spend far less time with members of their family on any given day, female singletons are still predicted to spend 15 more minutes with family than male singletons. Men who go solo, on the other hand, spend about 13 more minutes with friends and other non-family than women who live alone.

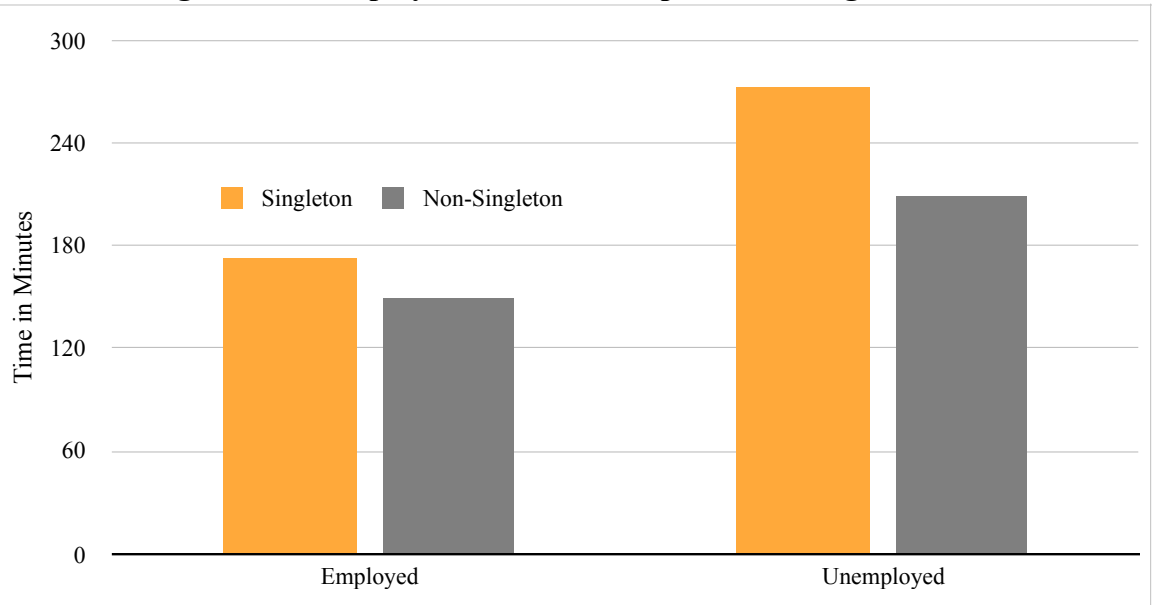
To summarize, gender matters when it comes to living alone. Female singletons are generally more pro-social than both their male counterparts and people who live with others. They spend more time socializing and less time at home. On the surface, male singletons seem to spend the most time in third places; however, upon further inspection, older male singletons are much more reclusive. Furthermore, men who live alone spend the most time watching television and the least amount of time with family members.

How employment matters

In this section, I discuss how employment and singleton status interact with one another when predicting various integrating or isolating behaviors.

In some ways, employment has pro-social benefits that are stronger than the effects of living alone or not. Take television, for instance. As it turns out, employment has the largest effect size when predicting time spent watching television for both singletons and non-singletons. Among singletons, the effect size is huge: employed singletons can be expected to watch an hour and 40 fewer minutes of television than their unemployed counterparts. Compare this with non-singletons, where employed folks only spend an hour less than their non-employed counterparts. Figure 2.23 offers a visualization of these relationships. Here we see that the gap between the unemployed and the employed (regardless of whether or not someone lives alone) is a large one.

Figure 2.23: Employment and Time Spent Watching Television

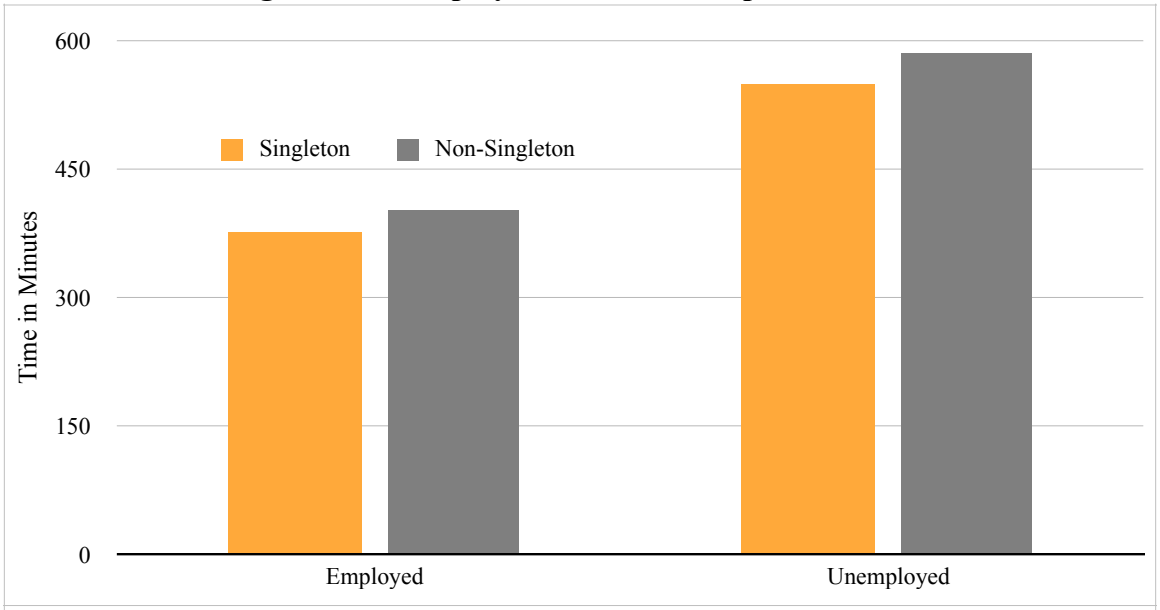


Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men age 45 with average years of education (14 years, i.e. some college), and a roughly average $45K per year income, during the weekday.

Employed singletons only watch about 25 more minutes of television than employed respondents who live alone. Unemployed singletons, on the other hand, would be predicted to watch over an hour more of television than unemployed respondents who live with others.

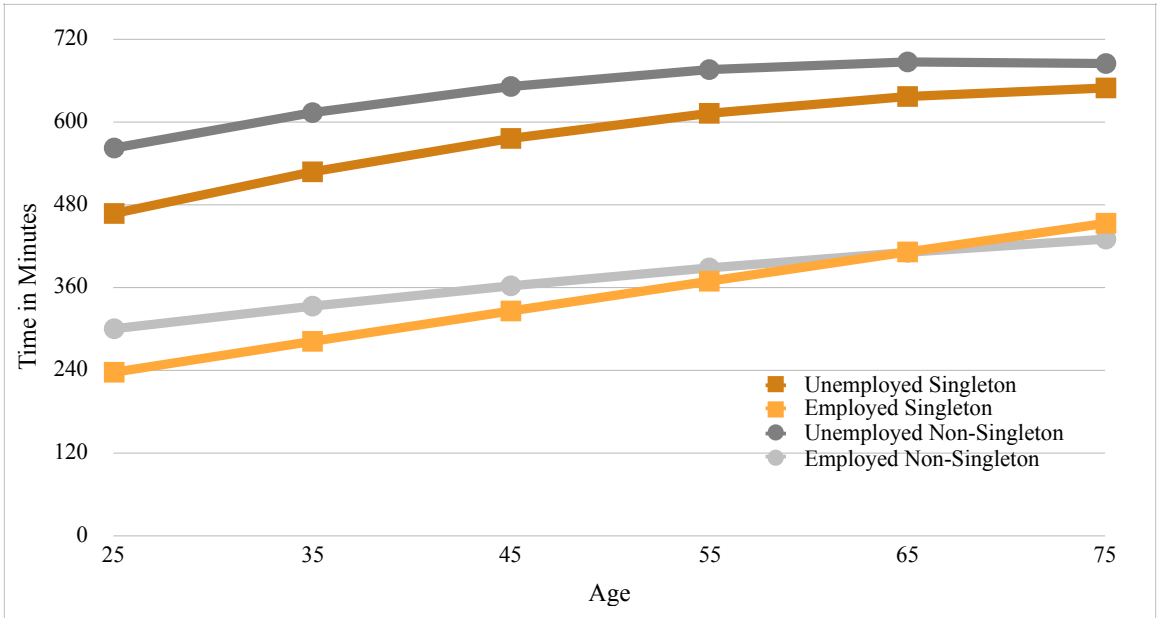
Similarly, in Figure 2.24, we see that unemployed respondents — whether they live alone or not — are predicted to spend more time at home than employed respondents. This is understandable, given that these respondents don't have a workplace to go to. As we saw in Figure 2.9 above, older respondents tend to spend more time at home, and what gap there was between young singletons and non-singletons is much reduced. When we look at the interaction between employment, age, and singleton status

Figure 2.24: Employment and Time Spent at Home



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men age 45 with average years of education (14 years, i.e. some college), and a roughly average $45K per year income, during the weekday.

Figure 2.25: Employment, Age, and Time Spent at Home

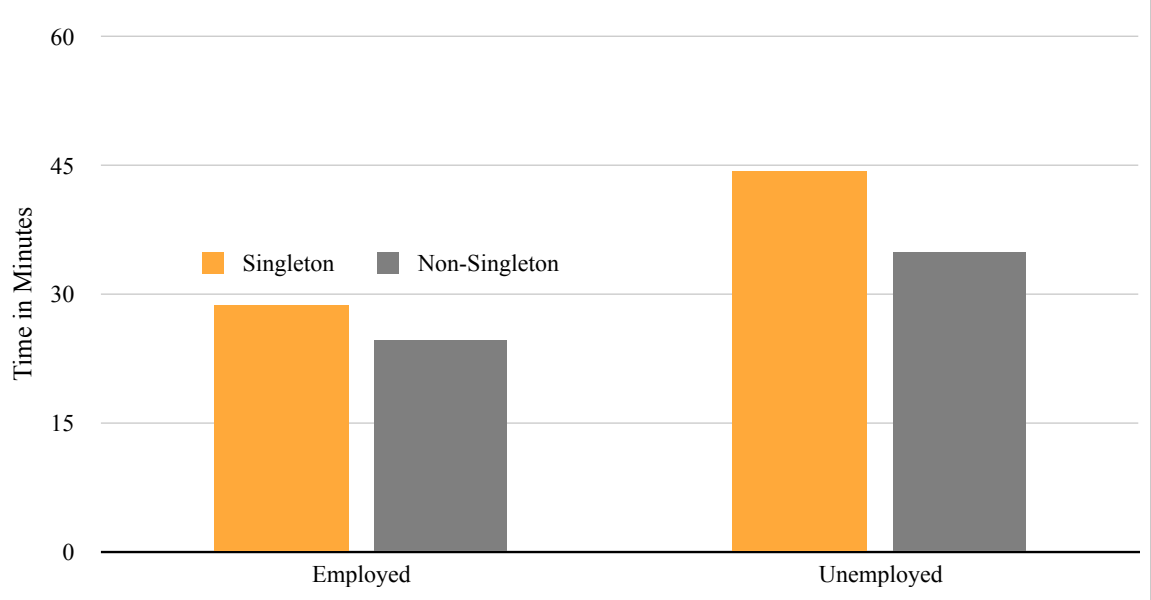


Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), and a roughly average $45K per year income, during the weekday.

in Figure 2.25, we see that unemployed singletons continue to spend less time at home than their unemployed non-solo counterparts throughout the life course, but the gap diminishes over the years between employed singletons and non-singletons. Nevertheless, regardless of whether or not someone lives alone, being employed is a great way for young and old respondents alike to get out of the house.

In other ways, though, employment negatively affects social behaviors. Across singleton status, the employed spend less time socializing, as displayed in Figure 2.26. Among singletons, being employed means about 15.5 fewer minutes of socializing under the ATUS codes.

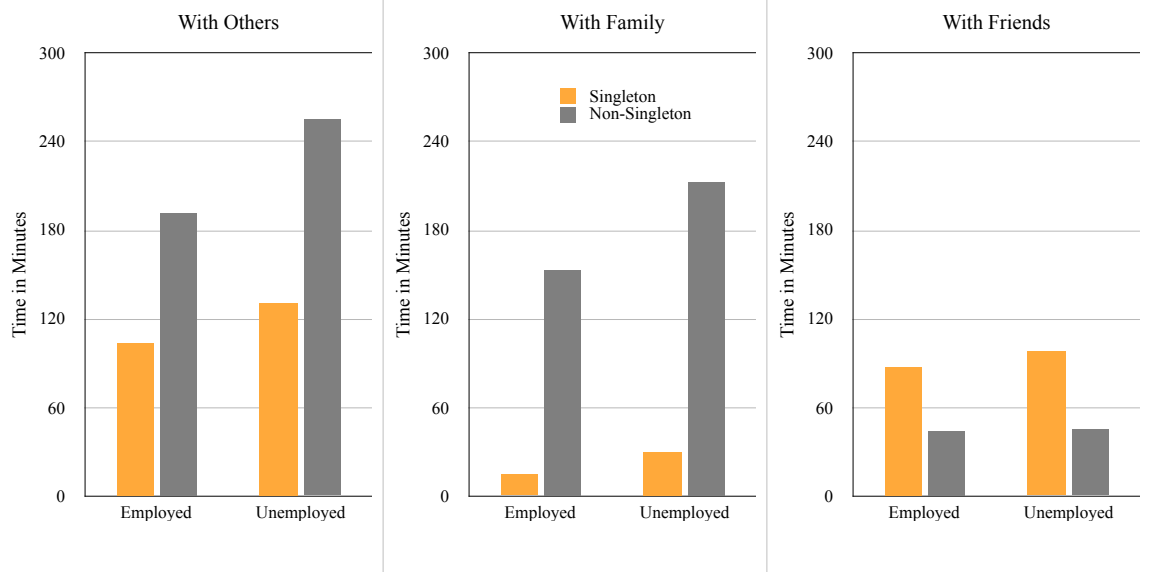
Figure 2.26: Employment and Time Spent Socializing



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), and a roughly average $45K per year income, during the weekday.

And, in still other ways, living alone had a much stronger effect on social behaviors than employment did. This was especially the case for time spent with others overall, with family, and with friends. As can be seen in Figure 2.27, we can see that the differences between singletons and non-singletons are much more pronounced than the differences between the employed and unemployed, with regards to time spent with others, with family, and with friends.[9]

Figure 2.27: Employment and Time with Others



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men with average years of education (14 years, i.e. some college), and a roughly average $45K per year income, during the weekday.

[9] Of course, those who are employed will have less leisure time overall because they will spend a greater portion of their day working. I decided to assess how living alone among the employed and unemployed influenced the proportion of leisure time that was spent with others, with family, and with friends. Ultimately, my results from these secondary analyses were quite similar to the overall trend in this chapter: regardless of whether or not they were employed, singletons spent a smaller proportion of their free time with family and a larger proportion of their free time with non-family, when compared to those who live with others.

To summarize, employment can both help and hinder singletons' pro-social behaviors. Employment gets singletons and non-singletons alike out of the house and reduces the amount of television they watch. However, it reduces the amount of non-work interactions people have with others when measured both explicitly via the ATUS codes and by whom respondents spend time with outside of work.

Discussion and Conclusion

This study explores how different characteristics shape the socially integrating or isolating behaviors of people who live alone. In the previous chapter, I identified nine dependent variables that counter or bolster social isolation. While the previous chapter established the mixed social benefits and costs of living alone on the whole, this chapter explores the differences in experiences among singletons via sample stratification. In summary, I find that people who live alone are, in some ways, more different than alike when it comes to socially integrating or isolating behaviors. I discuss my findings as they relate to gender, age, and employment in the paragraphs that follow.

Among people who live alone, women tend to fare better than men with regards to socially integrating behaviors. On average, women who go solo spend more time socializing explicitly (even as compared to women who live with others), watch less TV, spend more time with family, and spend less time at home compared to men who live alone. On average, men who live alone spend more time with friends and in restaurants and bars, yet as they age this is no longer the case.

In some ways, living alone at an older age is better for pro-social behaviors than living with others. On average, the elderly who live alone in my sample spend more time with friends, more time out and about in third places, and less time watching television than the elderly who continue living with others. On balance, however, elderly singletons spend much less time with others overall when other variables are controlled for, and the increased amount of time spent with friends simply can't make up for this difference.

Finally, employment has mixed effects when it comes to socially integrating and isolating behaviors. Employed singletons spend much less time at home watching television than their unemployed counterparts. This holds true across ages, too. But if spending more time at work means less time for behaviors like watching television, it also means less time for behaviors like socializing with others under the ATUS codes. While employed singletons spent slightly less time with others overall, with family, and with friends than unemployed singletons, the differences between singletons and those who lived with others were larger than the within singleton differences by employment.

Sociologists tend to panic when it comes to social isolation (Parigi and Henson 2014; Wang and Wellman 2010). Elderly women who live alone are generally assumed to be socially isolated; yet when it comes to socially integrating behaviors, I found that these women were often better off than men who lived alone or people who lived with others for their age group. Women who go solo tend to socialize and get out of the house more, even when they reach old age. It would be interesting to see if there are cohort effects at work here, or if these behaviors are truly due to age.

Admittedly, no study is perfect and there are several limitations of this study worth mentioning. First, it is worth noting that in many cases, the model fit was poor, as measured by the R-squared and pseudo R-squared statistics. The results from these models should therefore be taken with extreme caution. In a way, the poor model fit demonstrates that there is still a lot that we don't know about this population, and about what predicts pro- and anti-social behavior apart from sociodemographic predictors. Furthermore, the large scope of this chapter limited me from discussing every possible interaction effect between my predictors, and it is possible that I missed something interesting. If nothing else, this serves as a testament the robustness and richness of the ATUS data.

The number of people who live alone is a substantial, and often undiscussed, part of the American population. As this study shows, it is a diverse population that has very different needs depending on age, gender, and employment status. My hope is that this study can inspire additional lines of inquiry for more in-depth study of different sub-sets of the growing population of solo dwellers.

Chapter 3: Home Alone? Home-Based Work and Family Time

For better or worse, Americans spend a great deal of time in the workplace. Where we work has a broader influence on our leisure time beyond the workplace with our families (Wilensky 1961; Meissner 1971). Long hours at work can constrain the amount of time workers have to spend with others off-the-clock (Godbey, Crawford, and Shen 2010; Lin 2012) and this has consequences for work-family balance (Glass 2000; Sayer 2005) and childcare (Jacobs and Gerson 2004; Sayer, Bianchi, and Robinson 2004).

But what happens when someone works from home? An increasing proportion of Americans now work at least one day a week from home (Mateyka, Rapino, and Landivar 2012), with many working from home everyday (Matos and Galinsky 2014). In an era where work-life balance has become a key sociological concern, the practice of working from home has brought on fresh anxiety, especially since home-based work has become a prominent feature of the American economy (Mateyka et al 2012) and one that some have called "the future of work" (Potter 2003).

A great deal of literature on home-based work discusses the ramifications of such work on family relationships (e.g. Glass and Finley 2002; Golden, Veiga, and Simsek 2006; Hill, Hawkins, and Miller 1996), and whether or not working from home affects men and women differently (e.g. Noonan et al 2007; Sullivan and Lewis 2001; Hilbrecht, Shaw, Johnson, and Andrey 2008; Kossek, Lautsch, and Eaton 2006). While this body of research has offered important insights, much of it is based on qualitative interviews, or relatively small sample sizes. The study of home-based work could benefit from a larger,

random sample of workers to address how the act of working from home on a given day shapes the amount of time spent with family.

To that end, this study offers a large-scale investigation of the effects of the practice of home-based work on parents' family interactions. I use data from the American Time Use Survey (ATUS) to investigate how working from home impacts time spent with family and conducting childcare activities on a given day. Drawing from a sample of n = 17,351 respondents with children from 2010 to 2014 who worked at least part time in their reported day, the ATUS allows me to analyze where someone works (at work, at home, at a coffee shop, etc.) and whom they were with during their off hours. I can also control for and interact other factors — such as number of children, whether or not the respondent is married, and gender — that may also play a part in predicting time spent with family and children. This will allow me to determine the extent to which working from home on a given day affects social interactions with family. I discuss previous research on this topic in the following section.

Telecommuting's Effects on Family Relationships

Home-based work has risen substantially since the 1980s (Mateyka et al 2012), facilitated by technologies like the Internet, cell phones, and laptops (Wellman et al 1996; Madden and Jones 2008; Chen and McDonald 2014). Between 2005 and 2012, the number of companies reporting that they allow their employees to work from home nearly doubled from 34% to 63% (Matos and Galinsky 2012). As of 2008, nearly half of

employees in a study by Pew Research Center reported working from home at least some of the time (Madden and Jones 2008). The rise of working from home has garnered interdisciplinary attention across psychology (Gajendran and Harrison 2007), management (Bailey and Kurland 2002; Bartel, Wrzesniewski, and Wiesenfeld 2011), communications (Fay and Kline 2011; Fonner and Roloff 2010; Chen and McDonald 2014), and sociology (Glass 2004; Noonan and Glass 2012; Noonan et al 2007).

But scholars have by no means reached a consensus about what home-based work does to families. Some research suggests that having the option to work from home offers greater work-family balance. In a meta-study, Gajendran and Harrison (2007) found that people who worked from home once or twice a week reported having lower work-family conflict. In fact, one study found that just *perceiving* that one has more flexibility leads people to have better work-family balance (Hill et al 2001).

However, this "flexibility" may come at a cost. Telecommuting tends to involve increased spillover of one's work into home life (Diaz et al 2012; Wight and Raley 2009) and even increased work hours (Noonan and Glass 2012). The ubiquity of mobile devices, e-mail, and instant messaging means that we are never truly out of reach from our co-workers (Glazer 2013; Madden and Jones 2008). Working from home can blur the lines between home and work, making it hard to feel productive while working or spend quality time with family (Hill, Hawkins, and Miller 1996; Golden et al 2006).

Research has also delved into how gender may shape the home-based work experience. In the early 90s, researchers theorized that women, particularly mothers,

would have the most to benefit from telecommuting (Galinsky, Bond, and Friedman 1993). Yet, more recent research may challenge this. One study found that women and men had no differences when it came to the positive effects of telework (Hill et al 1996). In some cases, women may actually be *less* likely to use telecommuting benefits (Clark et al 2015). This may be due to the fact that using flexible policies has been shown to negatively women's wage growth (Glass 2004). Men — married men in particular — have been found to have more access to telecommuting (Golden, Veiga, and Dino 2008), and those that do have lower intentions to quit (Clark et al 2015).

What about the effects of working from home on childcare? Working from home can be a boon to parents who need to stay home to take care of a sick child (Hill et al 1996). Mothers who work from home report having lower stress (Kossek, Lautsch, and Eaton 2006) and better work-family balance (Sullivan and Lewis 2001). Yet, some studies have suggested that when women work from home, it reinforces the culture of "intensive mothering" with the traditional gender role of mother as primary caregiver (Sullivan and Lewis 2001) and leaves little room for mothers' personal leisure (Hilbrecht, Shaw, Johnson, and Andrey 2008). And there is considerably less research on whether or not fathers who work from home experience childcare differently (but see Noonan et al 2007).

So, does working from home lead to an increase or decrease in the time spent with family or doing childcare? Most of the research cited above has featured either qualitative methodology (e.g. Ammon and Markham 2004; Sullivan and Lewis 2001; Hilbrecht,

Shaw, Johnson, and Andrey 2008) or small sample sizes (e.g. Golden et al 2006; Kossek et al 2006; Noonan et al 2007). Surprisingly, no one has actually used time use surveys to measure how the very act of working from home shapes the amount of time spent with family or doing childcare. We therefore do not have a sense on a more general scale of what a day of home-based work does to interactions with family. This study addresses this issue. I offer details on my data source and method in the following section.

Data and Methods

About the ATUS

Like my two previous chapters, this study uses data from the 2010-2014 American Time Use Survey, which asks a nationally representative sample of Americans about how they use their time on a randomly sampled day. Due to its open question format, the ATUS provides a unique look into Americans' time spent working and time spent with family members. Most other surveys ask people to estimate the amount of time they spend doing different activities in a given week or year using closed-ended responses, resulting in much less granular data. For instance, the General Social Survey asks, "How often do you spend a social evening with relatives?" or "How many hours a week do you usually work, at all jobs?"

Because work time is often constrained (Lin 2012), respondents tend to overestimate the amount of time they spend working with this method. Indeed, one of Robinson and Godbey's (1997) major findings was that while people reported working,

on average, 40 hours per week in standard survey questions, they reported working closer to 35 hours per week in time diaries. This is due, in part, to the fact that the ATUS and other time use surveys ask about the previous day which aids with recall and allows for a more precise measurement (Robinson and Godbey 1997; Hamermesh et al 2005). It is, after all, much easier for respondents to remember what they did the previous day than to recall what they did for an entire year (Weisberg 2005).

Time diaries like the ATUS do have some notable limitations, however. Because time use surveys are relatively costly, respondents only report on one day. I therefore cannot examine what a person's work and social time look like holistically, nor make inferences about respondents' long-term time use when it comes to working from home. Though an incomplete window lives of any given respondent, the ATUS provides a large enough sample that the results are still robust in the aggregate, since those respondents who spend more time than usual with their families will be balanced out by those who spend less time than usual (see Robinson and Godbey 1997 for a discussion). In a way, this feature of the ATUS can provide special insights into who and how people work from home, since those who happened to work from home on their reported day would have been selected randomly on two fronts: as respondents themselves and which day they reported on (see Frazis and Stewart 2012 for a discussion). For additional information on my use of the ATUS, see Chapter 1.

In the following sections, I discuss my method, and how I used the ATUS to measure time spent with family, time spent working from home, and my additional controls.

Dependent Variables

In this chapter, I look at time spent with family, time spent with children, and time spent conducting childcare activities as my key dependent variables. In my first dependent variable, I look at the sum of time (in minutes) a respondent spent with family doing the leisure activities listed in Table 1.2 in Chapter 1. Readers will note that the family members listed in Table 1.1 are the family members included in this variable as well. The second dependent variable is much like the first, however it only includes social time spent with the respondent's children. Finally, the third dependent variable measures how much time respondents spent conducting childcare activities. A list of these childcare activities is included in Table 3.1.

In all of my models, I will only be looking at those who have worked more than 4 hours in a given day. Without this control, my results would feature inflated rates of people who work from home since, for instance, those who only checked their e-mail for five minutes from home would be counted as working entirely from home. Noonan and Glass (2012) argue that these kinds of activities — often performed after a full day's

worth of work — account for a large portion of telecommuting.[10] Nevertheless, this study is more concerned with those n = 8,513 respondents who (1) were above the age of 18, (2) worked what would be considered a part-time or full-time shift (i.e., 4+ hours) and (3) had at least one child who lived at home.

I will be using several key independent variables in my analyses. First, what proportion of the respondents' time spent working was spent at home? Under this measure, someone who worked entirely from home on their reported day would have a value of 1, someone who worked three of their four work hours from home would have a value of 0.75, someone who worked entirely not at home would have a value of 0, and so on.

Gender has been a key concern for the study of home-based work since the inception of telecommuting (Galinsky et al 1993; Glass and Finley 2002). Working women continue to spend more time doing childcare than men (Bianchi 2000), and men and women's time in domestic labor differs depending on policy use (Noonan et al 2007). As I discuss above, it is not wholly clear if men or women benefit more from telecommuting. In this study, I code gender as a dummy variable, with female given a value of 1. I also include a dummy variable for marital status, where married has a value of 1.

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[10] Out of curiosity, I decided to run several descriptive statistics on the average amount of time spent working from home. Among the entire sample of n = 61,159 ATUS respondents between 2010 and 2014, when respondents spent time working from home, the average time spent was 103.25 minutes, with a standard deviation of 107.95 minutes. When I ran the same query for my sample of n = 17,351 respondents who worked at least 4 hours on their reported day, this mean increased to 129.36 minutes and the standard deviation rose to 121.60 minutes. This suggests a wide variation of the time spent working from home — from four hours to only a handful of minutes.

Table 3.1: Activities included in variable measuring time spent in childcare activities

Activity Name	Activity Code
Caring for and helping household children	
Physical care for household children	30101
Reading to / with household children	30102
Playing with household children, not sports	30103
Arts and crafts with household children	30104
Playing sports with household children	30105
Talking with / listening to household children	30106
Organization and planning for household children	30108
Looking after household children	30109
Attending household children's events	30110
Waiting for / with household children	30111
Picking up / dropping off household children	30112
Activities Related to Household Children's Education	
Homework	30201
Meetings and school conferences	30202
Home schooling	30303
Activities Related to Household Children's Health	
Providing medical care to household children	30301
Obtaining medical care for household children	30302

For more information on the ATUS activity codes, visit www.ls.gov/tus/lexiconwex2014.pdf
* Astute readers may notice that activity code 30107 is omitted in this table. The BLS combined "Talking with household children" (30106) and "Listening to household children" (30107) in 2004.

Independent Variables

Research on telework notes that working from home can benefit childcare activities (Hill et al 1996; Noonan et al 2007). It seems reasonable to suspect that each additional child would increase the amount of time spent with children in leisure or childcare activities. I use a measure of the number of children under 18 in the household, truncated at 5 children.

Most studies of home-based work have focused on telecommuting in a private sector context. However, findings from the Census Bureau suggest that the self-employed are overrepresented among home-based workers (Mateyka et al 2012). The experiences of self-employed workers may be different than employees of private and government organizations, and I therefore include self-employment as a dichotomous variable in my models.

I account for several additional controls in these models. I have coded race and ethnicity as a categorical variable, with whites as the omitted category. The categories include Black, Hispanic/Latino, Asian, and an other race category. For age, I include both age in years and age in years squared, to account for curvilinear effects. To measure education, I use the number of years of education the respondent has attained. Finally, I control for whether or not the recorded day was a Saturday or Sunday using a dichotomous variable. Readers interested in descriptive statistics on the demographics of those who worked their entire reported day from home can turn to Appendix C.

Analysis Plan

This study offers a series of OLS regressions that measure how working from home on given day impacts time spent with family overall, time spent with children, and time spent conducting childcare activities.[11] In a series of additional models, I also make use of interaction terms to investigate how working from home may affect the other independent variables (particularly gender and marital status) in my models in different ways.[12] I share the results from my models with interaction terms in a series of figures for ease of interpretation. I describe my findings from each of these methods in the following section.

The Effects of Working from Home on Family Time and Childcare

Working from home involves more social time with family, but for whom?

A great deal of ink has been spilled on whether or not working from home is good for families (Golden et al 2006; Gajendran and Harrison 2007; Hill et al 2001). In Table 3.2, I share the results from my multivariate analyses predicting social time with family, social time with children, and time spent in childcare activities.

The results from my first model suggest that working entirely from home on a given day does indeed benefit time spent with family. Respondents who worked entirely

[11] Readers interested in my choice of OLS regression can turn to Chapter 1, which offers a discussion on why OLS is the most appropriate for studying time use.

[12] In my exploratory analyses, I ran three-way interaction terms; however, most of them were not statistically significant. I therefore only include the results from models featuring three-way interactions when significant.

Table 3.2: Results from Multivariate Analysis on Workers' Social Time

	Minutes Spent with Family	Minutes Spent with Children	Minutes Spent Taking Care of Children
Proportion Worked at Home	27.08***	18.05***	25.51***
Self-Employed	4.01	-1.49	-3.83
Female	-3.38	0.19	20.60***
Married	46.81***	16.33***	9.87***
Number of Children	2.14^{+}	4.15***	8.66***
Age	-0.64	6.30***	1.14*
Age^2	<0.01	-0.08***	-0.03***
Black	-11.82**	-3.03	-8.81***
Hispanic	7.58*	9.40***	-5.01*
Asian	-12.46*	2.54	-5.71^{+}
Other Race	-1.82	1.85	-5.26
Years of Education	-0.80*	-0.98**	2.23***
Weekend	28.72***	24.97***	-16.14***
β_0	108.88***	-53.66***	-11.47
$^{+}p<0.10$; $^{*}p<.05$; $^{**}p<.01$; $^{***}p<.001$ (two-tailed test)	$R^2 = 0.06$ *N = 8,495*	$R^2 = 0.04$ *N = 8,495*	$R^2 = 0.10$ *N = 8,495*

from home spent roughly 27 more minutes with their families, controlling for the other variables in the model. This is the equivalent of 3.2 hours per week.

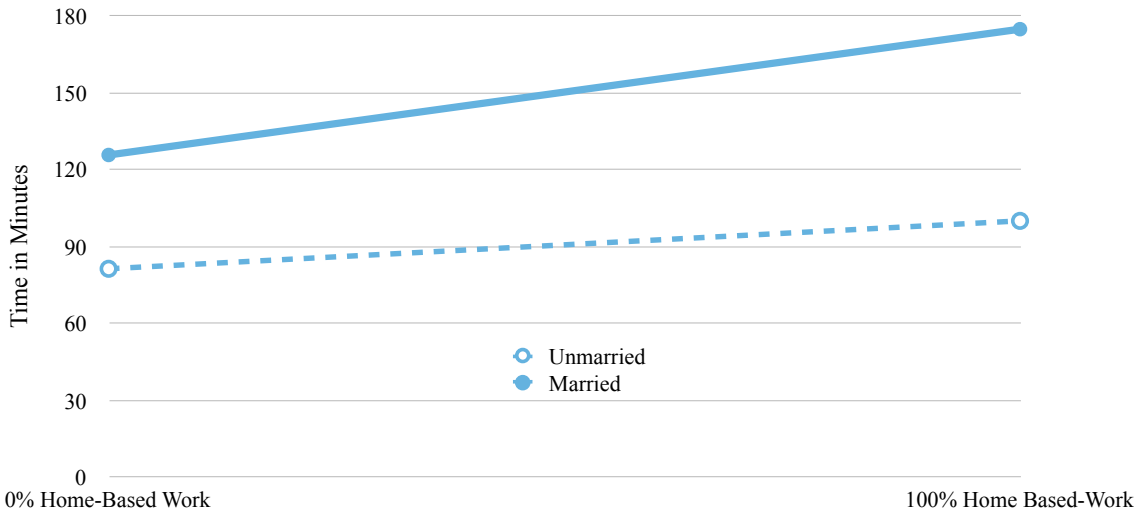
I should also point out that marital status has an understandably large impact on time spent with family. Being married leads one to spend 45 more minutes of leisure in the presence of family members. Similarly, the coefficient for number of children involves an extra 2 minutes with family members per child. Both of these coefficients are

not particularly surprising, given that having more family members gives someone more opportunity to interact with them. For instance, married respondents probably just spent that additional time with their spouse.

Furthermore, if the reported day was a weekend, respondents would be predicted to spend about 29 more minutes with family, controlling for any other factors. It is worth noting that working entirely from home on a given day is roughly equivalent in effect size as having a given day be a weekend.

Given its large effect size in the model, what happens when we interact working from home with marital status? Figure 3.1 shows the predicted values from grouping my sample based on working entirely or not at all from home, and how that plays out among married and unmarried respondents with regards to time spent with family. In Figure 3.1, we see that working entirely from home increases the amount of time spent with family ever so slightly among the unmarried, by about 20 minutes or so a day; however, working from home increases time spent with family among married respondents by nearly an hour. The gains of working from home are much greater for time spent with family among the married.

Figure 3.1: Marital Status, Working from Home, and Time Spent with Family

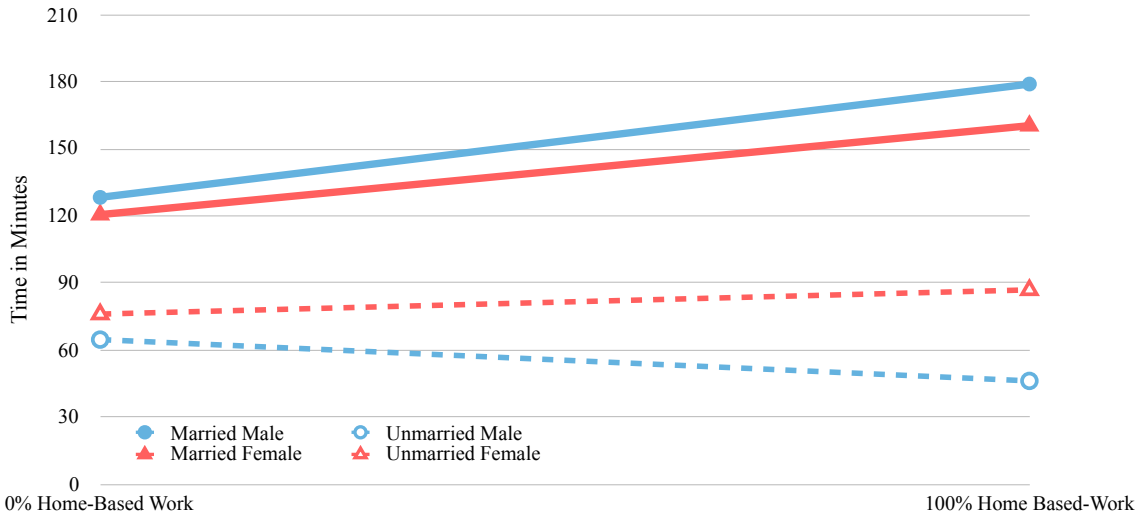


Source: American Time Use Survey 2010-2014. Predicted values estimated for college-educated white men who were not self-employed aged 45 with no children during the weekday.

Note: The coefficient for marriage was significant at the $p < 0.001$ level in both regressions.

Furthermore, there are some important differences by gender among married respondents when respondents are grouped by both marital status and proportion worked from home, as shown in Figure 3.2. Married men reaped the biggest increases in family time by working from home — roughly 50 minutes. This is larger than the increase experienced by married women, among whom working from home increased family time by about 40 minutes. Unmarried women who worked from home only increased the amount of time they spent with family by about 10 minutes, and unmarried men who worked from home spent 18 *fewer* minutes with family by working from home.

Figure 3.2: Marital Status, Gender, Working from Home, and Time Spent with Family



Source: American Time Use Survey 2010-2014. Predicted values estimated for college-educated whites who were not self-employed aged 45 with no children during the weekday.

Note: The coefficient for female was statistically significant in all but one of the regressions grouped by proportion worked from home and marital status. The coefficient for female among unmarried respondents who worked entirely from home was significant at the $p < 0.10$ level; $p < 0.05$ level among married respondents who did not work from home at all; and $p < 0.05$ level among unmarried respondents who did not work at home at all. Among married respondents who worked entirely from home, the p value was not statistically significant ($p = 0.153$)

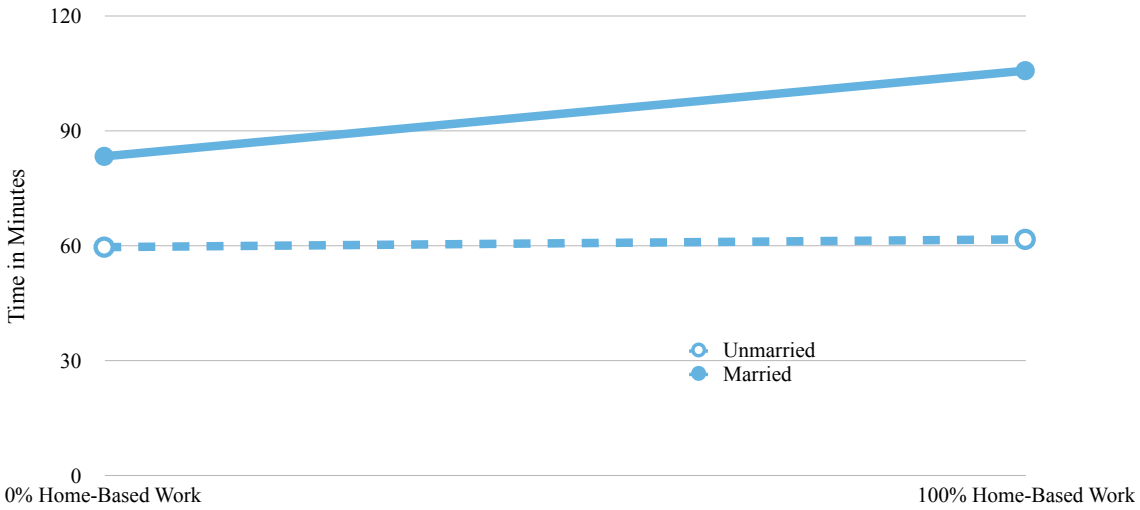
Working from home benefits time spent with children, but for whom?

Much of the research on working from home has discussed the benefits for parents, especially mothers (e.g. Galinsky et al 1993; Hill, Hawkins, and Miller 1996; Sullivan and Lewis 2001). How does working from home shape the amount of leisure time spent with children in particular? In Table 3.2, we see that working from home leads to an 18 minute increase in time spent with children when all other factors are held constant. Apart from whether or not the reported day was a weekend, the coefficient for working from home is the largest effect size in the model.

Once again, marital status has a notable effect in the model. Married respondents are predicted to spend about 16 more minutes with their children than unmarried respondents. So, how does that play out when we interact the married dichotomous variable with working from home? Figure 3.3 shows these results. Here we see that unmarried respondents do not differ in any meaningful way in the amount of leisure time they spend with their children when they work entirely from home. Among married respondents, however, we see an increase of around 20 minutes of leisure time spent with children when the respondents worked entirely from home.

Interestingly, gender did not come back substantively ($\beta = 0.19$ - the equivalent of about 11.4 seconds) nor statistically significant ($p = 0.925$) in the model predicting time spent with children in Table 3.2. Indeed, when the regression is grouped by working from home in Figure 3.4, the trend lines for men and women are indistinguishable from one another.

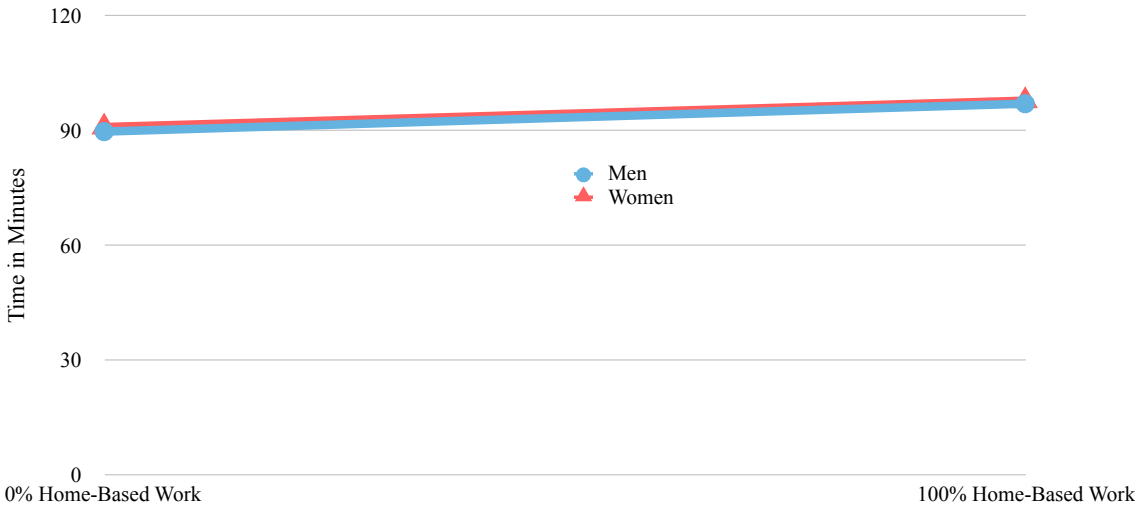
Figure 3.3: Marital Status, Working from Home, and Time Spent with Children



Source: American Time Use Survey 2010-2014. Predicted values estimated for college-educated, aged 45 white men with two children who were not self-employed during the weekday.

Note: The coefficient for married was significant at the $p < 0.05$ level among respondents who worked entirely from home; and the $p < 0.001$ level among respondents who did not work from home at all.

Figure 3.4: Gender, Working from Home, and Time Spent with Children



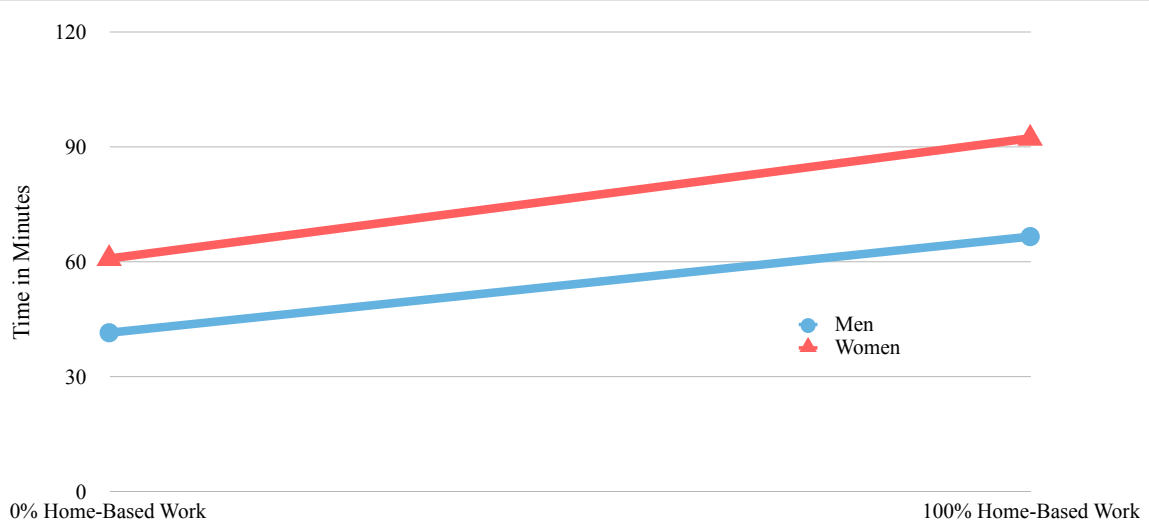
Source: American Time Use Survey 2010-2014. Predicted values estimated for college-educated, aged 45 white married respondents with two children who were not self-employed during the weekday.

To summarize, working from home involves an increase in leisure time spent with children. This increase does not happen for everyone, however: unmarried respondents do not benefit from working from home, while married respondents increase the time spent with their children by about 20 minutes. Gender notably does not play a large role in the amount of leisure time spent with children.

Working from home and time spent in childcare

Finally, how does working from home shape the amount of time spent conducting childcare activities among those with children? In Table 3.2, we see that respondents who worked entirely from home on their reported day spent about 25.5 more minutes doing childcare activities than those who worked away from home. Working from home is the largest effect size in the model. Countless studies have shown that women spend more time conducting childcare activities, and the coefficient for gender in this model bears this out: women, controlling for all other variables, spend about 21 more minutes in childcare activities than men in a given day.

Figure 3.5: Gender, Working from Home, and Time Spent doing Childcare



Source: American Time Use Survey 2010-2014. Predicted values estimated for college-educated, aged 45 white married respondents with two children who were not self-employed during the weekday.

Note: The coefficient for female was significant at the $p < 0.001$ level among respondents who worked entirely from home; and the $p < 0.01$ level among respondents who did not work from home at all.

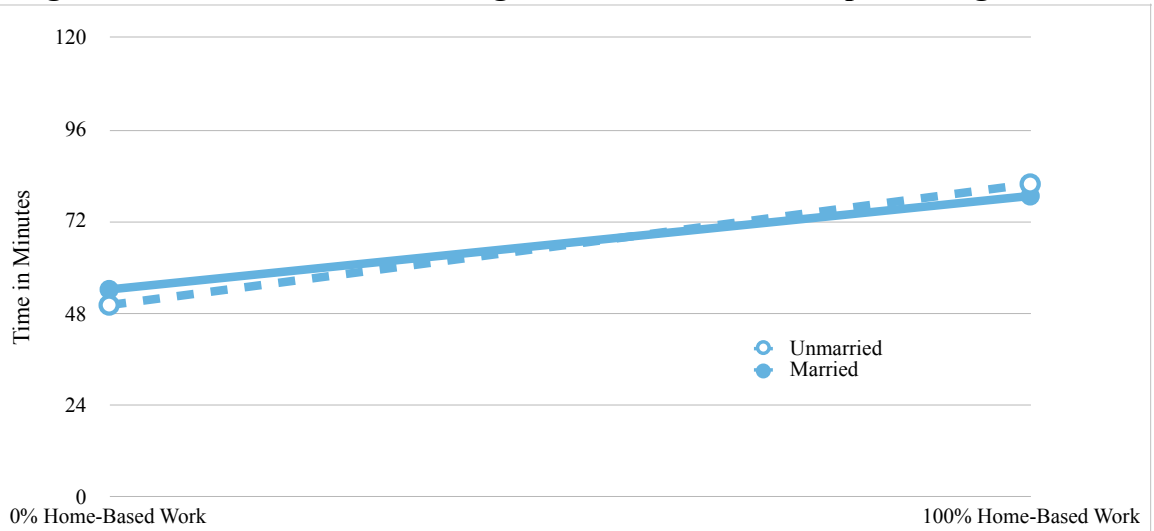
Curious about whether or not the differences between women and men would be the same among those who worked from home and those who did not, I ran another set of regressions to determine interaction effects between working from home and the other variables in my model predicting childcare time. Figure 3.5 shows the results from these regressions. Here we see that women across the board spend more time in childcare, regardless of whether or not they worked from home. Looking closely at the graph, one can see the tiniest of increases of slope for women as compared to men. The gap between women and men who work from home when it comes to childcare is about 6 more minutes than the gap of those who work entirely away from home. This is not a huge difference. It is also worth noting that men who work from home do spend more time

taking care of their children than those who worked entirely away from home. Still, Figure 3.5 underscores the notion that women spend more time with their children, regardless of where they work.

While the previous two models featured interesting differences when it came to marital status, the model predicting childcare did not. Figure 3.6 shows the results from my regressions interacting the proportion worked from home and whether or not the respondent was married. Not only were the results not statistically significant, the differences between married and unmarried respondents were not substantially significant either.

To summarize, women have consistently been shown to spend more time conducting childcare activities than men (e.g. Bianchi 2000; Jacobs and Gerson 2004; Craig 2006; cf Sayer, Bianchi, and Robinson 2004) and my results are no different. Irrespective of whether they work at home or beyond it, women spend more time than men taking care of children. Marital status makes little difference when it comes to childcare and working from home.

Figure 3.6: Marital Status, Working from Home, and Time Spent doing Childcare



Source: American Time Use Survey 2010-2014. Predicted values estimated for college-educated, aged 45 white men with two children who were not self-employed during the weekday.

Discussion and Conclusion

This study examines how working from home influences time spent with family. In this chapter, I employ three measures — time spent with family overall, time spent with children, and time spent conducting childcare activities — to evaluate how working from home on a given day shapes family relationships. These measures make use of the American Time Use Survey's relatively thorough coding schema, allowing a more granular understanding of respondents' time with their families.

In summary, people who work from home on a given day do, in fact, spend more time with their families than those who worked entirely beyond the home. The benefits of working from home are particularly notable for married respondents, who spent more

time with their families and children in leisure time, and spent more time taking care of their children. Married men reaped slightly more benefits from working from home than married women when it came to overall time spent with family; however, women and men are no different from one another when it comes to leisure time with children, and working from home makes little difference. While gender did not have statistically or substantively significant effect on leisure time spent with children, women who worked from home continue to spend more time in childcare activities than men who worked entirely from home.

The literature on working from home has long suggested that working from home could be a boon to working mothers, who would have the flexibility to spend more time with their children (Galinsky et al 1993; Hill et al 1996). Others have pointed out that this contributes to a culture of "intensive mothering" where women are expected to be overly involved in their children's lives to the detriment of the self (Sullivan and Lewis 2001; Hilbrecht et al 2008). My findings show that while working from home increased the amount of time mothers spent conducting childcare, there was no similar increase in the amount of time spent in leisure activities with children present. In other words, working from home leads women to conduct more labor for their children without a rise in leisure with their children. Somewhat hearteningly, fathers who worked from home also spent more time doing childcare activities; however, home-based work by no means lessens the childcare gap between women and men. The results from this study suggest that we still have a lot to learn about how fathers approach working from home.

The ATUS offers two benefits for the study of home-based work moving forward. First, it offers a random sample large enough to robustly study the impacts of working from home. Previous research on home-based work as relied on relatively small samples taken from particular workplaces. These studies may offer a biased picture of home-based work. By combining the 2010 through 2014 ATUS samples, this study offers a more vigorous investigation of how home-based work shapes the day-to-day experience of telecommuting.

Second, the ATUS allows for creative dependent measures. Few major surveys ask about working from home consistently, if at all. Even among those few surveys that do ask about home based work, oftentimes the sample of home-based workers is too small to be able to run analyses with any vigor. This makes it difficult for researchers to study the causes and consequences of home based work on a large scale, and constrains researchers to the questions asked by the survey. The ATUS, though not perfect, allows researchers to create their own measures with much more flexibility than traditional surveys, allowing for a wider scope of home-based research in the future. Future studies could use the ATUS to investigate the extent to which working from home occurs during "off-hours" (Noonan and Glass 2012; Golden 2012; Diaz et al 2012; Wight and Raley 2009), the extent to which home-based work constrains time as in a traditional office (Lin 2012), and how home-based work affects the amount of time spent doing housework (Noonan et al 2007).

That being said, this study features two key limitations. First, scholarship has come to view low- and high-intensity telecommuting as different experiences (Gajendran and Harrison 2007). Some employees work from home only once a month or once a week; others work entirely from home. Because the ATUS only asks about respondents' previous day and not their entire week, this study cannot distinguish between someone who just worked from home on their particular reported day, or someone who works from home each and everyday (see also Frazis and Stewart 2009). However, it is likely that this study sampled more intense telecommuters, since they would have been more likely to report working entirely from home on a given day in the first place.

Second, it is possible that the direction of causality is reversed when it comes to working from home and family time. For instance, a father whose daughter becomes sick may need to work from home to take care of her. In this case, spending more time with a child becomes the reason to work from home, not necessarily the result, per se. A future study should use the ATUS's rich coding lexicon to investigate how much time is spent conducting child health care activities when working from home. Regardless, we now have more concrete evidence that working from home is at the very least correlated with more time spent with family and children.

Conclusion

In this dissertation, I offer a new look into the lives of people who live or work alone. Previous work on people who live alone or work from home has been largely qualitative or based on smaller or non-random samples. This dissertation addresses two broad questions (1) whether or not people who live alone are actually more or less socially isolated than their non-solo counterparts based on their day-to-day behaviors and (2) whether or not people who work from home inherently spend more time with their families and children than those who work in a workplace on a given day. I will briefly summarize the key findings of each of my chapters in the paragraphs that follow.

While living alone has often been used as an indicator of social isolation (e.g. Bachrach 1980; Cornwell and Waite 2009; Holt-Lunstad et al 2015), several studies over the years have challenged this view, instead theorizing that those who live alone may, in fact, be more social than those who live with others (Klinenberg 2012; Alwin et al 1985; Hughes and Gove 1981). In Chapter 1, I find that living alone increases some socially integrating behaviors but decreases others. Across the board, people who live alone spend much less time with others during the leisure time. However, when time spent with kin versus non-kin are differentiated the results are much less bleak. Though singletons spend less time with family members, this is due to the fact that they do not live with these family members. In fact, singletons spend more time with friends, neighbors, and other non-kin than those who live with others. Singletons spend more time watching television; but on balance they spend much less time at home, and more time out and about in

restaurants, coffee shops, and bars. In short, it seems that people who live alone generally recognize that they have less social time baked into their day-to-day lives and therefore make purposeful efforts to get out of the house and socialize with others.

In Chapter 2, I delve deeper into the lives of different kinds of singletons by analyzing the interaction effects of age, gender, and employment with regards to my indicators of social integration. As people get older, they spend less time socializing, and the benefits of going solo begin to diminish. This is especially the case for men who live alone. In their twenties, men who live alone tend to leave the house and go to restaurants and bars more often, but by the time their reach old age they become more reclusive than their counterparts. Though I find in Chapter 1 that singletons spend more time watching television, women who live alone actually spend less time watching television on average than men who live with others. These effects continue across the life course, and by the time respondents are in their 60s or 70s, women who live alone watch the least amount of television when compared to men and women who live with others and men who live alone. What's more, employed singletons spend much less time watching television than unemployed singletons, and this holds true across all ages. Being employed has additional benefits, in that it gets singletons and non-singletons alike out of the house. It has relatively little effect on leisure time spent with others among singletons, though it does reduce the amount of time they spend socializing explicitly. All in all, the findings from this chapter suggest that living alone leads to integrating behaviors among the

young; older women; and the employed. Living alone is less rosy for elderly men or the unemployed.

In Chapter 3, I turn to the relationship between working at home and time spent with family members and doing childcare. Working from home has been touted as benefiting work-family balance particularly for mothers (Galinsky et al 1993; Noonan et al 2007; Sullivan and Lewis 2001; Hilbrecht, Shaw, Johnson, and Andrey 2008; Kossek, Lautsch, and Eaton 2006). Among those respondents with children, I find that men and women who work entirely from home on a given day spend equal amounts of time doing leisure activities with children, but that this amount of time increased slightly when working from home. Women generally spend more time doing childcare than men, regardless of whether or not they work a day from home. That being said, both women and men who work a day from home spend more time doing childcare than those who worked beyond it. There were also some differences when it came to married and unmarried respondents. Married respondents increased the amount of time they spent with children when they work from home, but working from home made little difference to the amount of leisure time unmarried respondents spent with their kids. Married and unmarried respondents alike spent more time doing childcare, and the differences between the two were minimal. In short, married respondents get to spend more fun time with their kids; and while both men and women spend more time doing childcare if they work from home, the childcare gap between men and women persists.

Throughout this dissertation, I made use of the American Time Use Survey (ATUS) run by United States Census and the Bureau of Labor Statistics (BLS). The ATUS's robust, random sample of Americans was vital to my efforts. Its large sample size meant that I could group my sample by different demographics in ways that would otherwise be statistically untenable in other surveys. In this dissertation, I drew upon a comprehensive set of indicators of social integration and isolation, as well as time spent with family or doing childcare. My research simply would not have been possible without the level of detail on the day-to-day activities of Americans, and data on whom respondents were with and where they were provided by the ATUS.

My indicators of social integration and isolation in particular offer a new way of studying social integration and its conceptual counterparts, such as social cohesion, social capital, and social isolation. Key measures of social integration feature considerable measurement bias, whether it's interviewers skipping over respondents' social ties to avoid lengthy followup questions (Paik and Sanchagrin 2013) or not being familiar with a particular type of voluntary association (Rap and Paxton 2016). What's more, asking respondents about their pro-social behaviors is prone to make people compensate for any perceived lack of social ties. One of the benefits of not asking people explicitly about their socially integrating or isolating behaviors is that researchers can worry less about social desirability bias.

This dissertation features several limitations worth noting. First, many of the model fits were relatively poor. Models with weak R^2 statistics should be taken with some

degree of skepticism. This also suggests, however, that there is much we still do not know that could help explain the amount of social interaction people have with others.

Second, the studies in this dissertation may feature causality issues. Gove and Hughes (1980) rightly warn that mental health could influence both socially isolating behaviors and whether or not someone lives alone. Chapter 1 would have benefited greatly from the inclusion of mental health measures, and future research should aim to include them when possible. Additionally, in Chapter 3, it is possible that the direction of causality is reversed when it comes to working from home and family time. A parent in the sample may be staying home to take care of a sick child, for instance. In this case, spending more time with a child becomes the reason to work from home, not necessarily the result, per se. A future study should use the ATUS's rich coding lexicon to investigate how much time is spent conducting child health care activities when working from home.

Finally, future studies would also look into the effects that certain key family characteristics may have on both the amount of time spent in socially integrating or isolating behaviors or the amount of time spent with family or children when working from home. For studies on the effects of living alone on integrating behaviors, these key family characteristics would include the number of adult children; whether or not the person had ever been married or divorced; and how far away they live from family members. For studies of working from home, these key family characteristics would include the number of children under the age of 6. Researchers should keep these

limitations and suggestions in mind should they pursue studies of living alone or working from home.

In any case, the findings from my dissertation have several policy implications. More people are living (Vespa et al 2013) and working alone (Mateyka et al 2012) in the United States than fifty years ago. Scholars have noted the isolating effects of living in the suburbs (Oldenburg 1989; Adams 1992), and living or working alone may compound these effects. It may be that housing developers, marketers, and policymakers need to reexamine their understanding of city layouts and housing units accordingly, in ways that make it easier for people who live or work alone to participate in their communities. Furthermore, many private companies and local governments have implemented telecommuting and flex-time policies as a way of recruiting and retaining talent in the name of work-family balance. My findings on home-based work suggest that these benefits may only help those in certain kinds of family structures. Perhaps work organizations need to investigate other ways that they can hire and keep employees who do not come from traditional family structures.

This dissertation has implications for the study of social isolation, family life, and work in the 21st century. The American family structure has undergone tremendous changes over the years, from increased divorce rates (Ruggles 1997), higher rates of women in the workplace (Semyonov 1980), and shrinking family sizes (Vespa, Lewis, and Kreider 2013). Americans are choosing a more individualized, atomic approach to the way they live their lives, instead of conforming to participation in long-standing

institutions like the family or the workplace (Wellman 2002). This has, understandably, raised serious concerns among sociologists, who recognize that social isolation contributes to negative outcomes like poor mental Ross and (Mirowsky 1989; Pillemer and Glasgow 2000) and physical health (Cacioppo and Hawkley 2003; House et al 1988). Yet, sociologists must be careful not to let common sense assumptions about living alone or working alone guide how they conduct research. It turns out that when empirical evidence is cast on these behaviors, living alone does not simply mean less social interaction, and working from home does not simply mean more time with children across the board.

Appendix A: Interaction Tables: Living Alone and Social Integration

Table A.1: Amount of Time Spent Explicitly Socializing

	Minutes Spent Socializing (overall)	Minutes Spent Socializing (singletons)	Minutes Spent Socializing (non-singletons)
Singleton	3.77***		
Age	-1.09***	-1.73***	-1.14***
Age²	0.01***	0.01***	0.01***
Female	3.97***	8.97***	2.90**
Black	0.33	-0.41	0.22
Hispanic	4.62***	6.24*	4.67***
Asian	-12.15***	-17.50**	-11.64***
Other Race	-1.91	-2.18	-1.81
Years of Education	0.15	-0.65*	0.42**
Income	<0.01⁺	<0.01	<0.01⁺
Rural	4.84***	4.80*	4.80***
Employed	-11.22***	-15.52***	-10.24***
Weekend	26.48***	22.06***	28.12***
β_0	67.23***	109.83***	62.07***
⁺p<0.10; *p <.05; **p <.01; ***p<.001 (two-tailed test)	R^2 = 0.03 *n = 57,787*	R^2 = 0.02 *n = 15,319*	R^2 = 0.03 *n = 42,468*

Table A.2: Amount of Time Spent Watching Television

	Minutes Spent Watching Television (overall)	Minutes Spent Watching Television (singletons)	Minutes Spent Watching Television (non-singletons)
Singleton	19.21***		
Age	2.57***	5.85***	0.61*
Age²	-0.01***	-0.05***	0.01***
Female	-49.38***	-50.94***	-46.21***
Black	37.18***	40.88***	33.39***
Hispanic	-17.93***	-19.32***	-16.24***
Asian	-19.17***	-2.50	-21.47***
Other Race	8.30^{+}	14.80	5.58
Years of Education	-6.67***	-8.41***	-5.85***
Income	>-0.01***	>-0.01***	>-0.01***
Rural	-4.10*	-8.60*	-3.10
Employed	-71.62***	-101.11***	-60.36***
Weekend	41.52***	35.21***	43.84***
$\boldsymbol{\beta_0}$	236.49***	242.59***	252.54***
$^{+}p<0.10$; $*p<.05$; $**p<.01$; $***p<.001$ (two-tailed test)	$R^2 =$ 0.16 *n = 57,787*	$R^2 =$ 0.14 *n = 15,319*	$R^2 =$ 0.14 *n = 42,468*

Table A.3: Whether Respondent Volunteered or Not (Odds Ratios)

	Volunteered (overall)	Volunteered (singletons)	Volunteered (non-singletons)
Singleton	0.79***		
Age	1.03***	1.02	1.05***
Age²	1.00**	1.00	1.00***
Female	1.32***	1.55***	1.22***
Black	0.90*	0.81*	0.97
Hispanic	0.62***	0.59***	0.62***
Asian	0.39***	0.58^{+}	0.37***
Other Race	0.92	0.65	1.02
Years of Education	1.17***	1.20***	1.16***
Income	1.00***	1.00	1.00***
Rural	1.18***	1.20*	1.17**
Employed	0.77***	0.75***	0.76***
Weekend	1.13***	1.01	1.18***
$^{+}p<0.10$; *$p<.05$; **$p<.01$; ***$p<.001$ (two-tailed test)	*n = 57,787*	*n = 15,319*	*n = 42,468*

Table A.4: Whether Respondent Attended an Association Meeting or Not (Odds Ratios)

	Volunteered (overall)	Volunteered (singletons)	Volunteered (non-singletons)
Singleton	1.56***		
Age	1.3	1.09*	0.99
Age²	1.00	1.00*	1.00
Female	1.19	1.02	1.39*
Black	1.25	1.06	1.40
Hispanic	1.10	1.47	0.94
Asian	0.65	1.47	0.47
Other Race	1.20	0.39	1.77
Years of Education	1.11***	1.16***	1.09**
Income	1.00	1.00	1.00
Rural	0.82	1.14	0.64^{+}
Employed	0.61***	0.59*	0.67*
Weekend	0.77*	0.83	0.73*
$^{+}p<0.10$; $*p<.05$; $**p<.01$; $***p<.001$ (two-tailed test)	*n = 57,787*	*n = 15,319*	*n = 42,468*

Table A.5: Amount of Time Spent at Home

	Minutes Spent at Home (overall)	Minutes Spent at Home (singletons)	Minutes Spent at Home (non-singletons)
Singleton	-35.19***		
Age	6.20***	8.15***	6.64***
Age²	-0.03***	-0.04***	-0.04***
Female	9.80***	-7.68+	12.95***
Black	-29.50***	-11.61*	-37.44***
Hispanic	-39.92***	-34.99***	-40.52***
Asian	-3.63	9.35	-6.41
Other Race	4.85	21.19	-0.69
Years of Education	-1.15**	-2.30**	-0.26
Income	>-0.01***	>-0.01***	>-0.01***
Rural	-0.71	-2.16	-1.04
Employed	-182.12***	-171.92***	-183.13***
Weekend	60.82***	42.31***	67.43***
β_0	395.06***	307.89***	378.51***
+p<0.10; *p <.05; **p <.01; ***p<.001 (two-tailed test)	R^2 = 0.18 *n = 57,787*	R^2 = 0.22 *n = 15,319*	R^2 = 0.17 *n = 42,468*

Table A.6: Amount of Time Spent in Third Places

	Minutes Spent in Restaurants or Bars (overall)	Minutes Spent in Restaurants or Bars (singletons)	Minutes Spent in Restaurants or Bars (non-singletons)
Singleton	6.45***		
Age	-0.61***	-1.36***	-0.63***
Age²	0.01***	0.01***	0.01***
Female	-2.50***	-6.28***	-0.58
Black	-5.45***	-7.08***	-4.83***
Hispanic	-0.25	-2.08	-0.01
Asian	-5.34***	-3.29	-5.64***
Other Race	0.05	1.82	-0.51
Years of Education	1.12***	1.08***	1.03***
Income	<0.01***	<0.01***	<0.01***
Rural	-1.87***	-1.99^{+}	-1.67**
Employed	3.51***	1.93^{+}	3.80***
Weekend	6.80***	6.16***	7.04***
$\boldsymbol{\beta_0}$	10.99***	43.88***	9.72***
$^{+}p<0.10$; $*p<.05$; $**p<.01$; $***p<.001$ (two-tailed test)	$R^2 =$ 0.03 *n = 57,787*	$R^2 =$ 0.04 *n = 15,319*	$R^2 =$ 0.02 *n = 42,468*

Table A.7: Amount of Time Spent in Third Places

	Minutes Spent with Others (overall)	Minutes Spent with Others (singletons)	Minutes Spent with Others (non-singletons)
Singleton	-137.34***		
Age	-2.43***	-6.13***	-3.88***
Age²	0.02***	0.04***	0.04***
Female	-23.41***	5.49^{+}	-28.09***
Black	-36.27***	-19.40***	-49.18***
Hispanic	-6.02**	1.72	-9.91***
Asian	-27.87***	-26.87**	-29.41***
Other Race	-1.88	-5.96	-0.41
Years of Education	0.45	0.27	-0.14
Income	<0.01*	<0.01***	<0.01*
Rural	3.69^{+}	2.50	5.79*
Employed	-51.66***	-27.17***	-62.62***
Weekend	89.65***	54.96***	102.40***
β_0	319.45***	308.20***	348.57***
$^{+}p<0.10$; $^{*}p<.05$; $^{**}p<.01$; $^{***}p<.001$ (two-tailed test)	$R^2 = 0.16$ *n = 57,787*	$R^2 = 0.05$ *n = 15,319*	$R^2 = 0.11$ *n = 42,468*

Table A.8: Amount of Time Spent with Family

	Minutes Spent with Family (overall)	Minutes Spent with Family (singletons)	Minutes Spent with Family (non-singletons)
Singleton	-171.24***		
Age	2.01***	-0.23	0.88**
Age²	-0.01***	>-0.01	<0.01
Female	-9.98***	17.31***	-16.16***
Black	-30.52***	-2.74	-48.24***
Hispanic	1.47	12.97***	-3.03
Asian	-11.35**	-9.98	-13.40**
Other Race	-10.07**	-10.52^{+}	-9.84^{+}
Years of Education	-0.78**	-1.50***	-0.88**
Income	>-0.01*	<0.01	>-0.01*
Rural	6.00***	5.02*	7.53**
Employed	-47.51***	-14.45***	-60.32***
Weekend	64.06***	23.79***	78.79***
β_0	156.79***	60.24***	179.99***
$^{+}p<0.10$; $*p<.05$; $**p<.01$; $***p<.001$ (two-tailed test)	$R^2 =$ 0.20 *n = 57,787*	$R^2 =$ 0.02 *n = 15,319*	$R^2 =$ 0.10 *n = 42,468*

Table A.9: Amount of Time Spent with non-Family

	Minutes Spent with Non-Family (overall)	Minutes Spent with Non-Family (singletons)	Minutes Spent with Non-Family (non-singletons)
Singleton	41.15***		
Age	-4.24***	-5.39***	-4.64***
Age²	0.03***	0.04***	0.04***
Female	-17.53***	-13.20***	-16.94***
Black	-2.30	-15.82***	3.99*
Hispanic	-8.58***	-12.43**	-8.34***
Asian	-12.91***	-10.20	-12.71***
Other Race	8.43^{+}	6.66	8.87*
Years of Education	1.01***	1.82***	0.35^{+}
Income	>-0.01	<0.01***	>-0.01
Rural	-7.11***	-4.52	-7.46***
Employed	-2.75*	-10.53***	-1.54
Weekend	9.69***	25.46***	4.02***
β_0	155.23***	225.07***	168.70***
$^{+}p<0.10$; $*p<.05$; $**p<.01$; $***p<.001$ (two-tailed test)	$R^2 =$ 0.05 *n = 57,787*	$R^2 =$ 0.05 *n = 15,319*	$R^2 =$ 0.03 *n = 42,468*

Appendix B: Additional Interactions among Singletons

As I discuss in Chapter 2, some demographic characteristics matter much more than others when it comes to predicting the amount of time spent in socially integrating or isolating behaviors. Chapter 2 takes age, gender, and employment as its focus. Yet, during my exploratory analyses for that chapter, I found several other interesting (and not so interesting) trends among singletons regarding social integration. In this Appendix, I discuss how some of my other controls — namely race/ethnicity, education, income, and living in a rural location — interacted with living alone with regards to my nine indicators of social integration put forth in Chapter 1. Throughout this chapter, I refer to the regression results in Appendix A. I compare my quantitative results to the findings (or lack thereof) in Eric Klinenberg's (2012) *Going Solo,* the most up-to-date, comprehensive look at the lives of people who live alone. All in all, the quantitative evidence put forth in this Appendix supports Klinenberg's findings in some ways and challenges them in others.

Race, living alone, and social integration

Previous research

Living alone is increasingly common among African Americans, especially African American women (Marsh et al 2007; Landry and Marsh 2011). There is considerably less research, however, on Hispanic or Asian Americans living alone. Indeed, race has been generally overlooked in those studies focusing on living alone overall. For instance, in

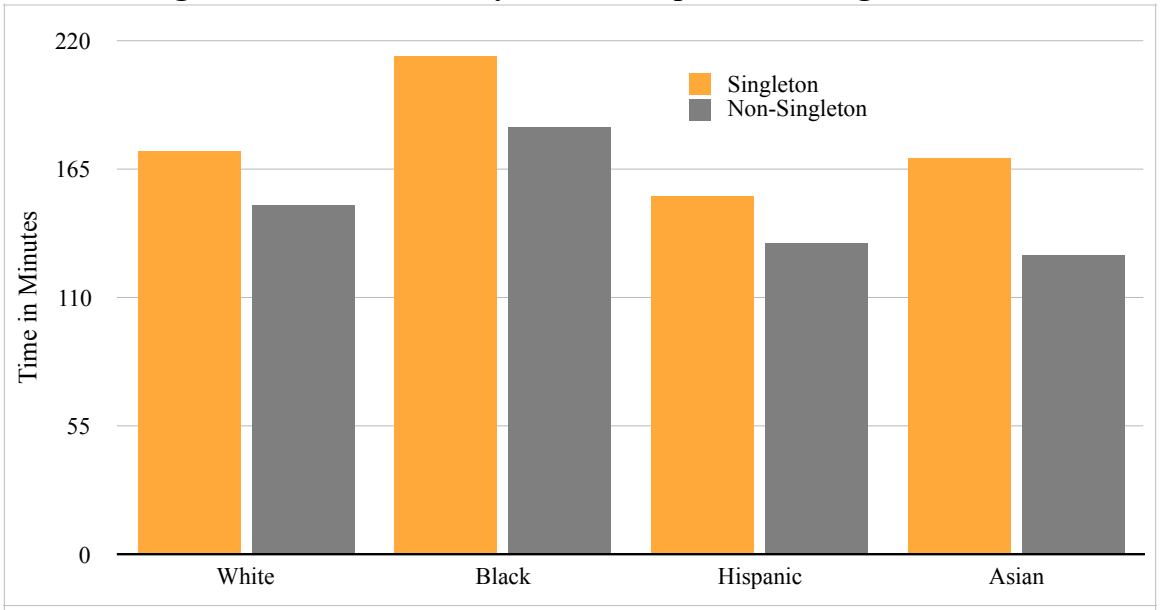
Going Solo, Klinenberg spends relatively little time delving into how race or ethnicity shapes the lives of singletons. Given that he does not include a demographic table of his respondents anywhere in the book (including his methodological appendix) I have no way of verifying the race or ethnicity of Klinenberg's respondents other than what he notes in the text. As far as I can tell, he only quotes two respondent of color — Nicky Grist, the former director of a political group promoting the rights of singletons (139), and Dee, an elderly woman who wants to remain autonomous. Klinenberg does cite research on the growing numbers of Black women who live alone (141-2), but does not draw conclusions about how race affects the social lives of singletons from his own data.

To assess how race and ethnicity shape the pro- or anti-social activities of singletons on a wider scale, I include dummy measures for whether or not the respondent was Black, Hispanic, Asian, or some other race, with white as the omitted category.

Findings

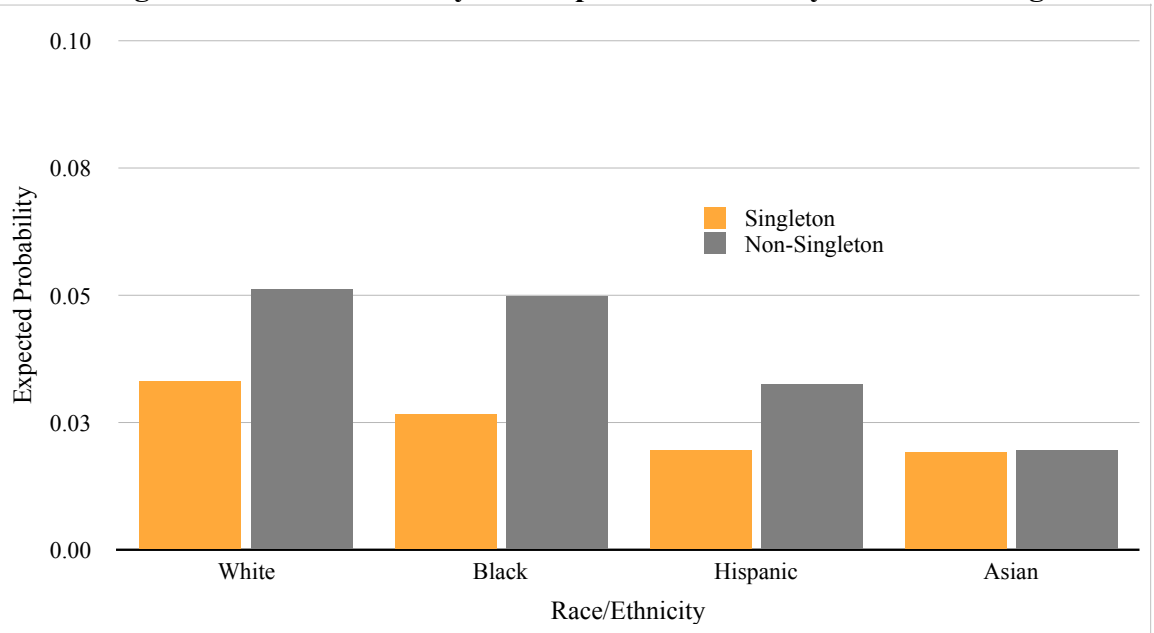
Among singletons, I found that white and Hispanic respondents are better off with regards to pro-social behavior than Black and Asian respondents. Hispanic singleton respondents spend slightly more time socializing explicitly when compared to whites, as shown in Table A.1. Black respondents who live alone spend the most time watching television, as can be seen in Table A.2 and Figure B.1. This graph also shows that the rate of television watching among singletons is particularly high among Asian respondents

Figure B.1: Race/Ethnicity and Time Spent Watching Television



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural men age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

Figure B.2: Race/Ethnicity and Expected Probability of Volunteering

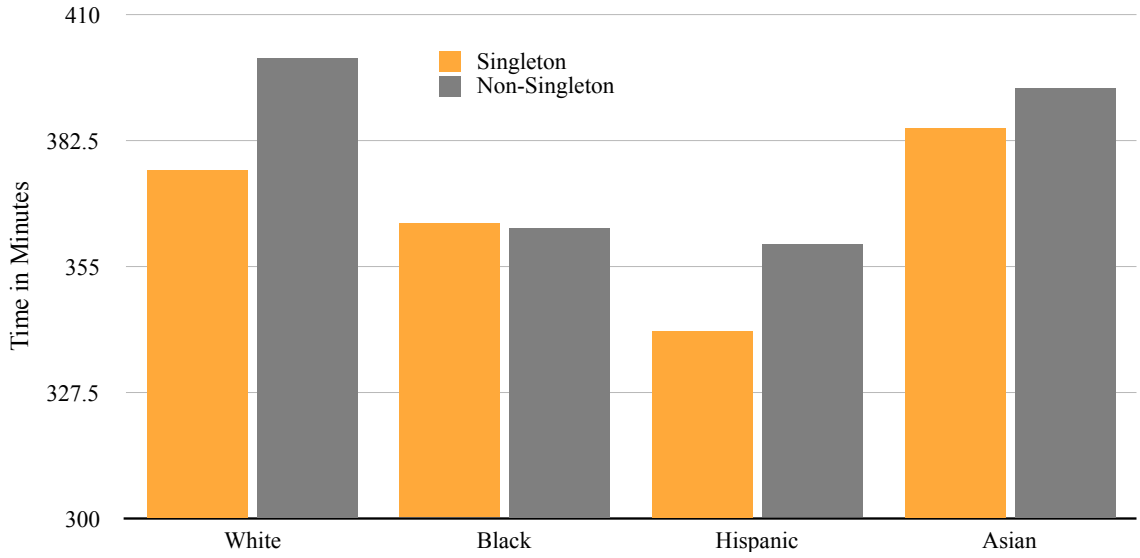


Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural men age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

who live alone, who otherwise have much lower television watching rates than whites in the non-singleton sample. White singletons are more likely to volunteer than singletons of color, too (see Table A.3); though as we see in Figure B.2, singletons across the board are less likely to volunteer, regardless of race.

Singletons overall spend more time in third places than those who live with others. Yet, as we see in Table A.6, among singletons whites — especially white men — spend the most time in bars and restaurants. In Table A.5, we see that Hispanic respondents spent less time at home across the board. This decrease is even more notable among Hispanic singletons in the sample, as we see in Figure B.3. Note, also, in Figure

Figure B.3: Race/Ethnicity and Time Spent at Home



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural men age 45 with average years of education (14 years, i.e. some college), a roughly average $45K per year income, during the weekday.

B.3 how Black singletons and Black respondents who live with others end up spending about the same amount of time at home, when all other variables are controlled for.

Finally, race matters when it comes to the amount of time singletons spend with others. Black and Asian singletons spend 20 to 37 fewer minutes respectively with others than white singletons, ceteris paribus. What's more, white singletons spend more time with friends and other non-family than singletons of color, when all other variables are held constant (see Table A.9). That being said, Hispanic singletons spend about 13 more minutes with family on any given day than white singletons (see Table A.8).

Discussion

On balance, it's much easier on singletons' social lives if they are white, and much harder if they're Black or Asian. Black and Asian singletons tend to engage in fewer pro-social behaviors and, in some cases, Hispanic singletons engage in more. Additional research that untangles the way that singletons sit at the intersection of race and gender is much needed and would have important ramifications for the study of community and social capital.

Rural location, living alone, and social integration

Previous Research

If we know little about the experiences about singletons of color, we know even less about the experiences of singletons who live beyond urban centers. In *Going Solo,*

Klinenberg admits that the book "is primarily about living alone in cities. Those who are interested in learning more about the experience of living alone in rural areas or small towns will need to look elsewhere" (2012: 235). Indeed, most of the examples he draws upon in the book take place in either New York or major Californian cities like L.A. and San Francisco. Studies suggest that social integration looks very different between rural and urban locations (Komarovsky 1946; Wirth 1938). Might people who live alone in rural areas be more isolated than their metropolitan peers?

Findings

Interestingly, living in a rural location didn't seem to matter for the amount of time spent in pro- or anti- social behaviors in my models. True, rural respondents in the general sample, among singletons, and among non-singletons spent about 5 more minutes socializing under the ATUS code (see Table A.1). In the overall regression, respondents who lived in a rural location spent about 4 fewer minutes watching television (see Table A.2). Among non-singletons, the coefficient was smaller and not statistically significant. Among singletons, rural residents spent about 9 fewer minutes watching television; however, this effect size is small relative to many of the other effects in the model. Living in a rural location had no significant effect on the amount of time spent at home, across the overall sample or samples grouped by rural status. Respondents who lived in a rural location could expect to spend a minute or two less in restaurants or bars in all three models, but this hardly seems like a very big difference. In short, though some of the

rural coefficients across my models were statistically significant, they were generally not substantially significant, nor were the differences between rural singletons and rural non-singletons worth mentioning.

Discussion

Klinenberg notes that he paid little attention to the experience of rural singletons and, according to my results, this turns out to be have been a decent decision, given that the quantitative effects of living in a rural location on social integration were relatively small. Nevertheless, there may be qualitative differences in these singletons' experiences worth investigation.

Class, living alone, and social integration

Previous Research

To live alone, one must be able to have the capital to live alone. Indeed, one theme of *Going Solo* is the differential experiences of white-collar, educated professionals who live alone and those who are low-income. Klinenberg notes that "most people who live alone are financially secure, not poor" (2012: 12). He depicts lawyers, entrepreneurs, investment bankers, and professors who can afford having their own space in notoriously high-priced housing markets like Berkeley or New York. Many are college educated, with degrees from Yale, Princeton, or Big Ten schools. Though many of these singletons experience some degree of loneliness or question their choice to live alone, it

seems most of them enjoy having their own space to pursue their own interests before heading out to hang out with friends, take painting classes, or play in a kickball league.

The story is far less rosy for lower-income singletons. Klinenberg interviews several men who live in single resident occupancies (SROs) that serve as affordable housing. Several of the men discuss being homeless, their challenges with drug and alcohol abuse, and incarceration. Unlike their well-off peers, these men see living alone as a social failure, and are ashamed or even scared to reach out to friends and family members — some of whom led them to problem behaviors in the first place.

In short, Klinenberg's research suggests that higher-class singletons are more likely to be sociable than those who are lower-class. I include income in my analyses as a discrete variable, and years of education as an ordinal variable in my analyses.

Findings

In most of my regressions, income made very little difference to the rate of pro- or anti-social behaviors. The strongest effect size was for time spent watching television and time spent at home. For both of these variables, an increase of $60K in income, controlling for all other factors, would lead to 18 fewer minutes watching television and 18 fewer minutes spent at home. Otherwise, most of the coefficients for income are so small — between $\beta = |0.000004|$ at smallest and $\beta = |0.0003|$ at largest — that they are barely worth noting. Take, for instance, the effect of income on how much a respondent would be predicted to socialize under the ATUS codes. The beta coefficients, while

statistically significant at the p<0.001 level, are 0.000004 for singletons and 0.00002 for non-singletons. Just for kicks, let's look at this in a graph, Figure B.4. This may, in fact, be the most boring graph I ever produced during my graduate education, but it proves a point: for most of my regressions, income made very little difference.

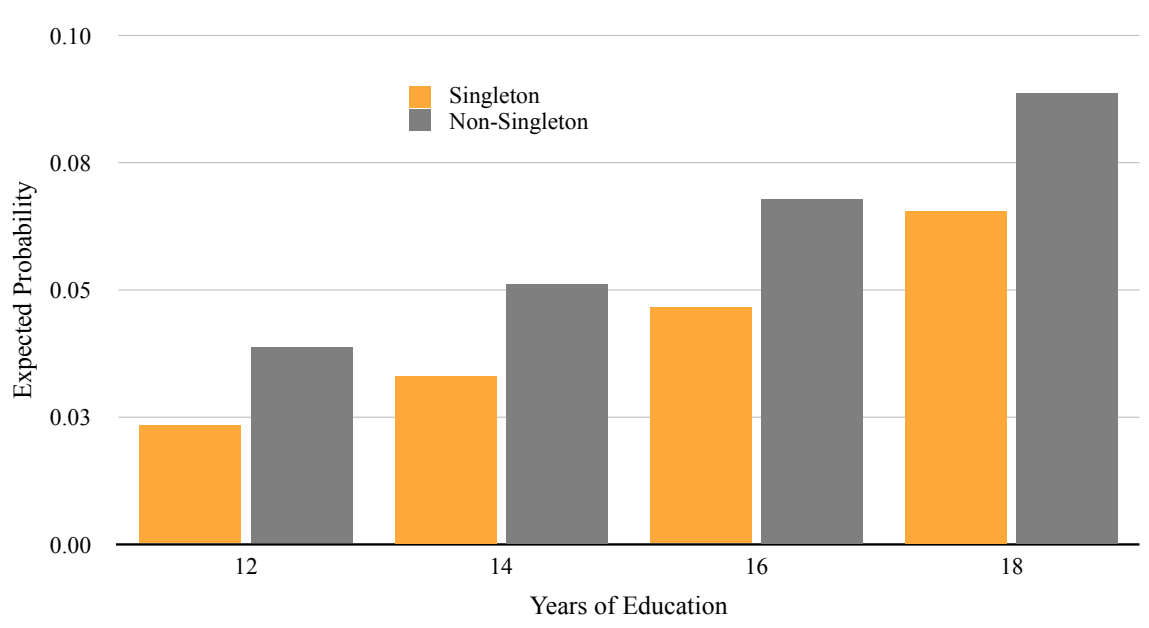
Figure B.4: Income and Time Spent Explicitly Socializing

Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men age 45 with average years of education (14 years, i.e. some college), during the weekday.

Education has a small effect on pro- and anti-social behaviors among singletons. Education has often been used as a key predictor of voluntary association membership (Verba, Schlozman and Brady 1995) and volunteering (Brady, Schlozman, and Verba 1999; Wilson 2000). In Table A.3 and Table A.4, we see that this is still the case in the logistic regressions predicting volunteering or attending an association meeting on the respondent's reported day. Among singletons and non-singletons alike, education shapes

the likelihood of whether or not someone volunteers on a given day. A singleton with a college degree to be has is 1.8 times more likely to volunteer than a singleton with only a high school diploma. That being said, the expected probability when other variables are controlled for remains relatively low for volunteering as demonstrated in Figure B.5. We also see in this figure that singletons across the board are less likely to volunteer on a given day than respondents who live with others. Indeed, a singleton with a master's degree would still be less likely to volunteer than a non-singleton with a college degree. Regardless, the likelihood of volunteering is still extremely low — less than 10% on any given day.

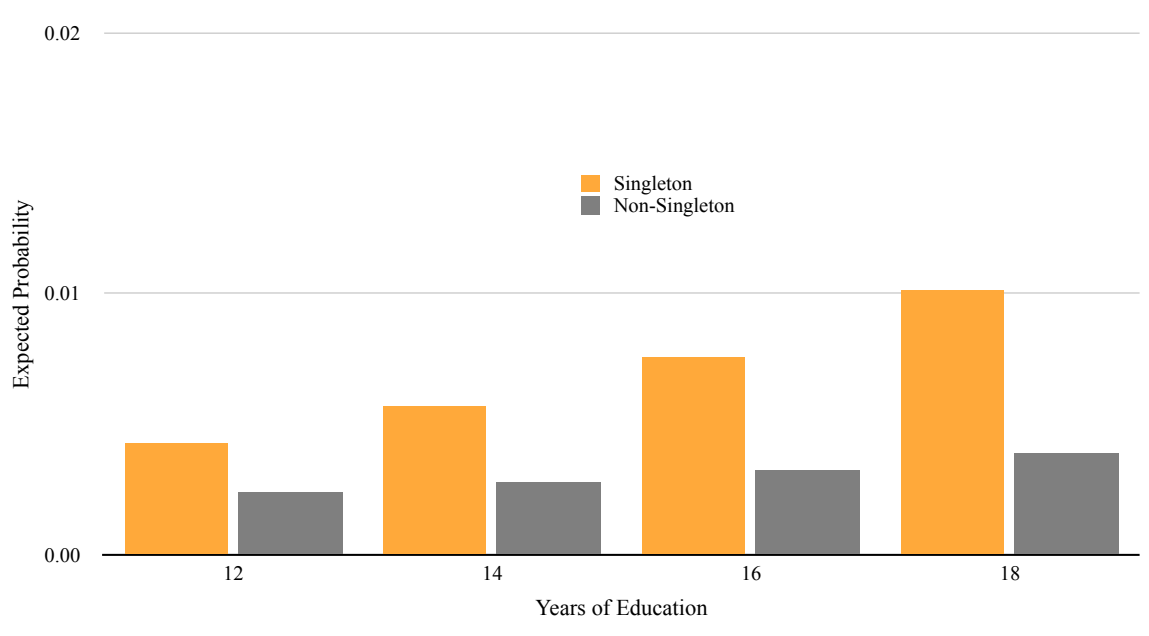
Figure B.5: Education and Expected Probability of Volunteering



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men age 45, a roughly average $45K per year income, during the weekday.

In fact, the likelihood of attending a voluntary association is even lower. Turning to Figure B.6, we see that the expected probability for attending a club meeting is around 1%, even in the best of circumstances. It is also worth noting that education is the only predictor significant at the $p<0.001$ level in the stratified models predicting association attendance. Singletons are more likely to attend voluntary associations, and that effect increases with education; however, when the difference in likelihood is between 0.5% and 1% it's hard to celebrate these effect sizes.

Figure B.6: Education and Expected Probability of Attending an Association Meeting

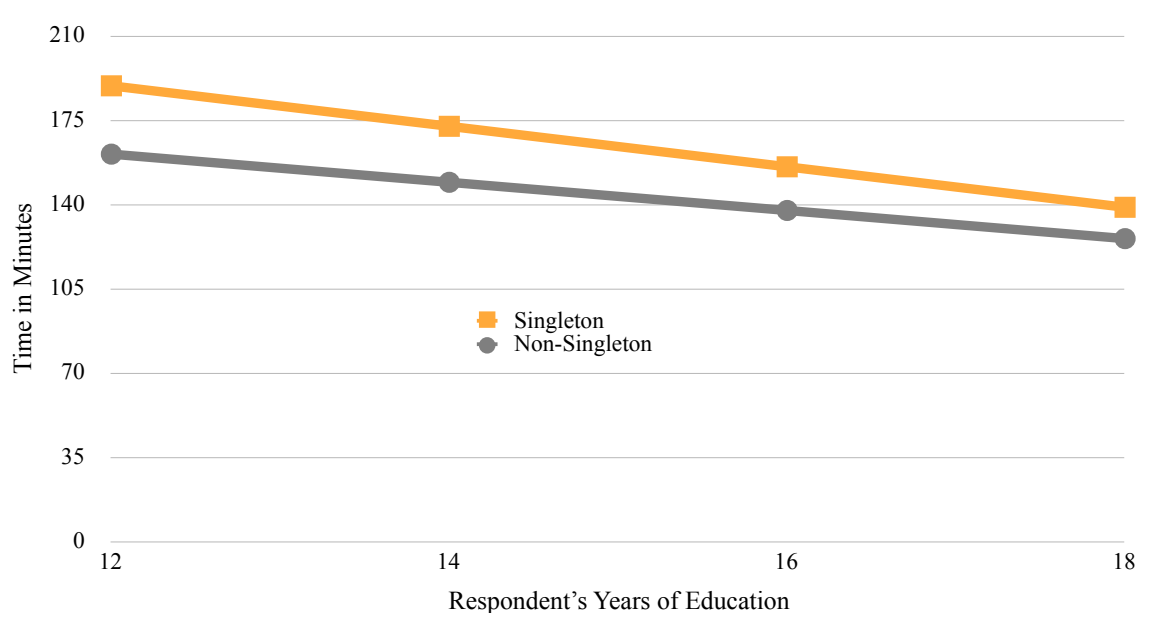


Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men age 45, a roughly average $45K per year income, during the weekday.

Otherwise, education — when statistically significant — has a relatively small effect on the other dependent variables. The largest effect size it has in a model can be found in Table A.2, which features the results for time spent watching television. For both

singletons and non-singletons, education diminishes the amount of time spent watching television. Among singletons, each year of education is predicted to reduce watching TV by 8.4 minutes, while among non-singletons that rate is about 5.8 minutes. A singleton with a master's degree would therefore be expected to watch 50 fewer minutes of television than one with just a high school diploma. Said singleton would still watch about 13 more minutes of TV than a respondent who lived with others with the same education, all other predictors controlled. Figure B.7 demonstrates the overall decline of TV watching with education, and how singletons, regardless of how much education they have, watch more TV than their non-solo counterparts.

Figure B.7: Education and Time Spent Watching Television



Source: American Time Use Survey 2010-2014. Predicted values estimated for non-rural white men age 45 and a roughly average $45K per year income, during the weekday.

Discussion

Surprisingly, the impact of class among singletons in my study was much lower than Klinenberg depicts in *Going Solo*. While income was usually statistically significant in my models, its effect sizes were miniscule. Indeed, at its most impactful, a $60K difference in salary among singletons meant watching a measly 18 fewer minutes of television or spending time at home on a given day. Considering some of the other effects discussed above, income makes relatively little difference to the social experience of living alone. While higher education does lead to slightly less television watching and a higher likelihood of volunteering or attending a voluntary association meeting, other socially integrating behaviors were unaffected by education.

Concluding Remarks

In short, Klinenberg (2012) got some things right and some things very, very wrong. *Going Solo* features a dearth of discussion on race and ethnicity. This turns out to be a mistake, as I found that singletons of color had far different experiences with socially integrating behaviors than white singletons did. Klinenberg didn't interview rural singletons; luckily, this turns out to have been a decent methodological decision, as I found that living in a rural location made little difference to the amount of time spent in socially integrating behaviors. Finally, Klinenberg spends considerable amount of time in *Going Solo* discussing how class (i.e. income and education) shape the experiences of singletons when, in all actuality, it matters far less with regards to socially integrating

behaviors. All in all, the findings in this Appendix point to a greater need for mixed methods research. On the one hand, qualitative researchers need to run quantitative analyses so that they do not mislead their readers about the effect sizes in their data. On the other hand, I fully appreciate that the experiences of singletons — while sometimes not quantifiably different — may be qualitatively different in ways ineffable to quantitative research.

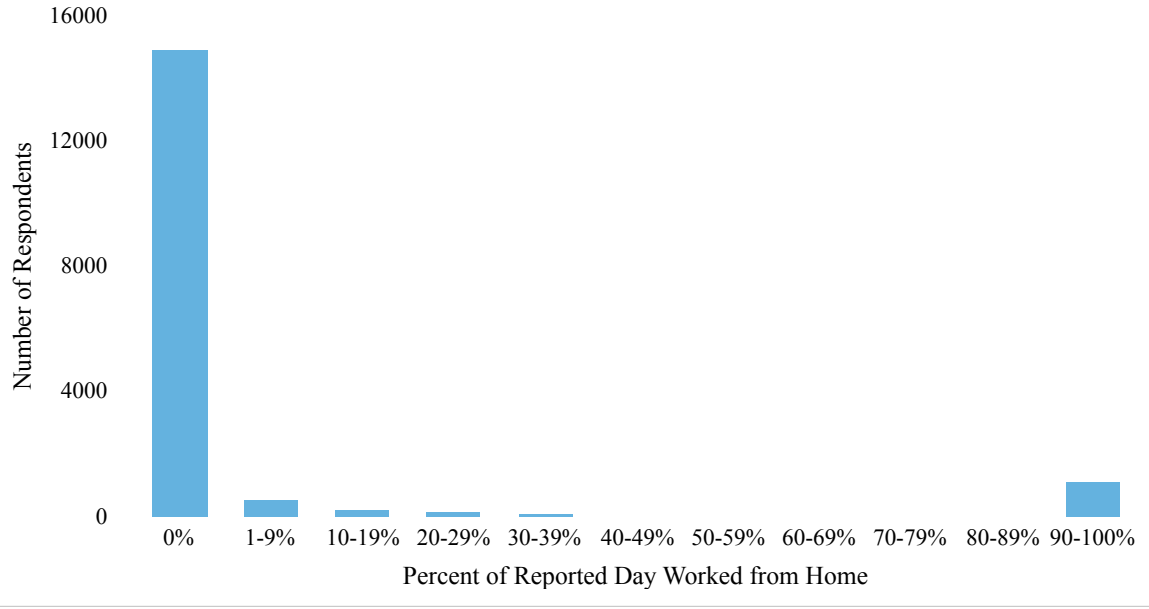
Appendix C: Descriptive Statistics of People Who Work From Home

In Chapter 3, I offer new empirical insights into how working from home affects time spent with family. One of the benefits of the American Time Use Survey (ATUS) is that it not only randomly samples respondents, it randomly samples those respondents reported days (for a discussion see Frazer and Stewart 2012). In this Appendix, I offer a series of descriptive statistics and figures on who is most likely to work from home on any given day. These statistics may be particularly insightful for research on high-intensity home-based work (Fay and Kline 2011; Gajendran and Harrison 2007), since respondents who worked from home more frequently would be more likely to have their reported day feature home-based work.

Who is most likely to work entirely from home on a given day?

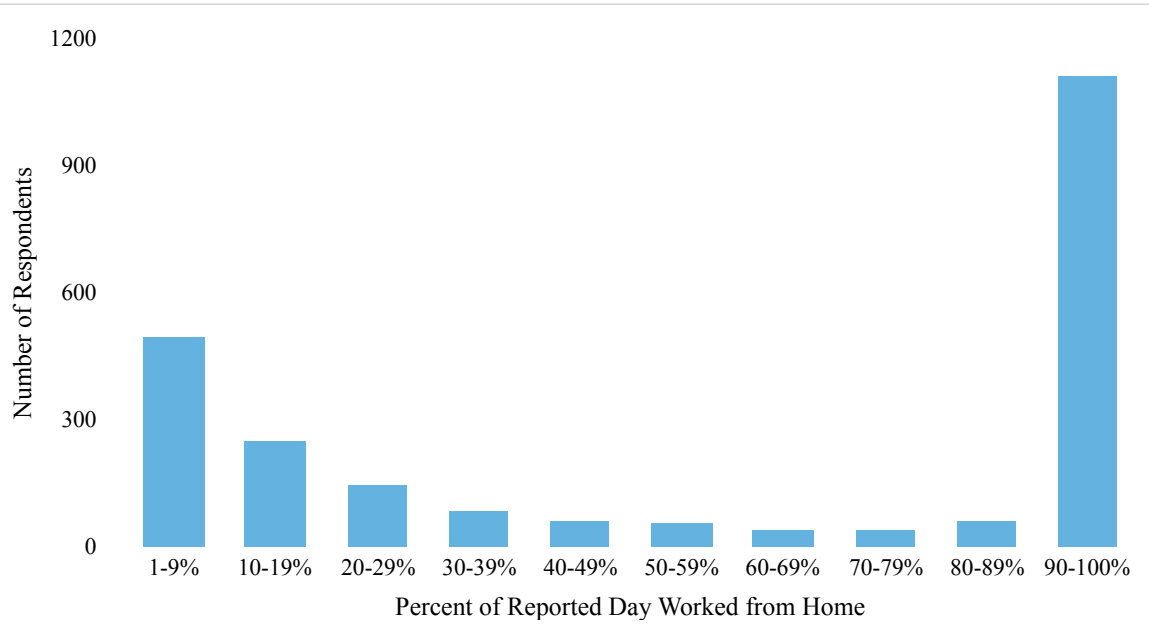
It turns out that working from home may not be as common as some would believe. Figure C.1 shows the distribution of the proportion of time spent working from home among the 17,214 respondents who were over 18 and worked at least 4 hours on their reported day. About 14,042 of these respondents (81.6%) did not work a single minute from home on their reported day. In fact, 92% of the sample worked less than half of their day from home. By contrast, 6.5% of respondents who worked 4 hours or more reported working entirely from home on their reported day. Let's get a better look at those who worked at least 1 minute at home. In Figure C.2, I've left those who worked 0 minutes from home out of the distribution for easier viewing.

Figure C.1: Distribution of Percent of Time Worked from Home, including 0%



Source: The American Time Use Survey, 2010-2014.

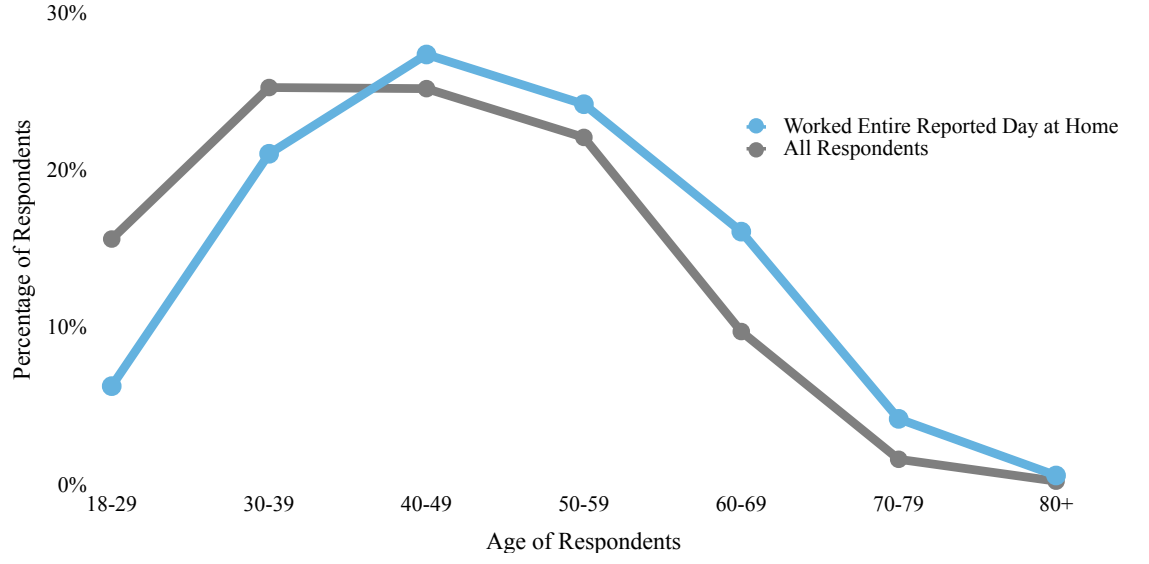
Figure C.2: Distribution of Percent of Time Worked from Home, excluding 0%



Source: The American Time Use Survey, 2010-2014.

Among those who did work at home, the proportions worked at home varied greatly, with a mean of 48.9% of the time worked at home and a standard deviation of 41.9%. I offer additional descriptive statistics on the 1,110 respondents whose work happened to be conducted 100% at home on their reported day in the following paragraphs.

Figure C.3: Age distribution of respondents who worked entirely from home

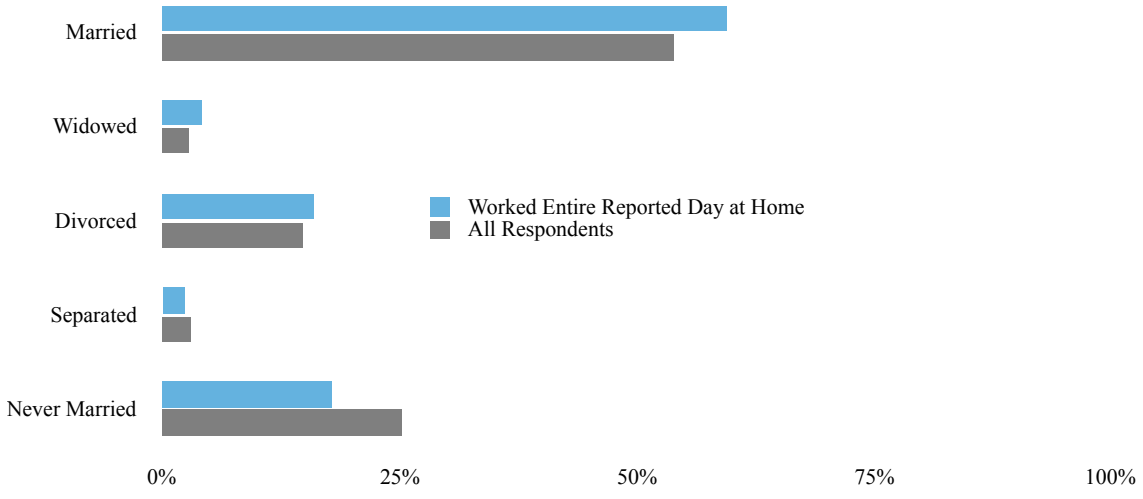


Source: The American Time Use Survey, 2010-2014. Overall sample refers to those n = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

Figure C.3 shows the age distribution of those who worked entirely from home, as compared to the entire sample of respondents who worked greater than four hours on their reported day. Here we see that respondents who worked entirely from home tended to be somewhat older than the rest of the sample. In the entire sample, 41% of respondents are below the age of 40; among home-workers, this drops to about 27%.

Accordingly, in Figure C.4, we see that the proportion of home-based workers who reported that they've never married (18%) is considerably less than the overall sample rate of 25%.

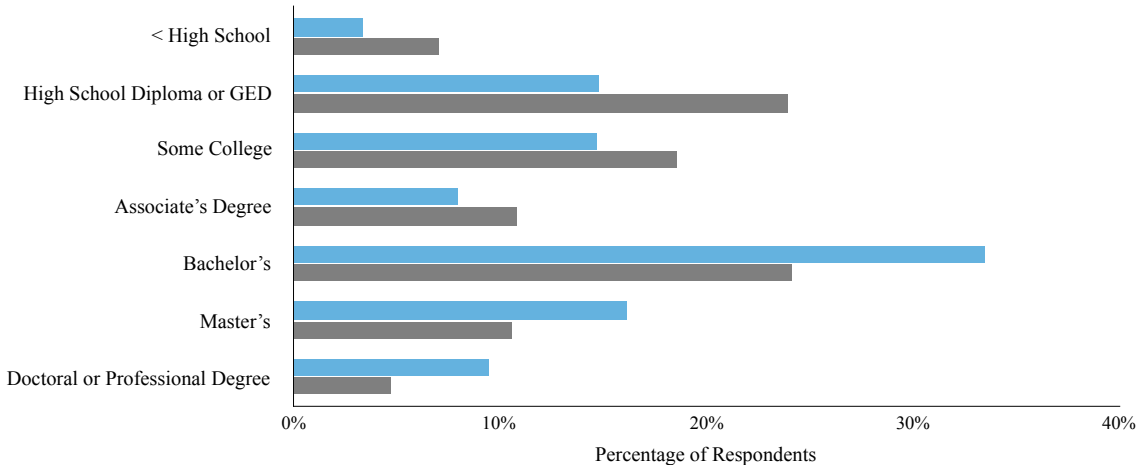
Figure C.4: Marital status of respondents who worked entirely from home



Source: The American Time Use Survey, 2010-2014. Overall sample refers to those n = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

And if the home-based workers are older, they may certainly be wiser. As we see in Figure C.5, the education distribution among those who happened to be working a day from home tends to skew higher than the overall sample. Nearly 60% of people who reported working entirely from home at a Bachelor's degree or higher, as compared to 40% for the overall sample. In fact, a whopping 9.5% of home-based workers in my sample had a doctoral or a professional degree, compared to only 4.8% in the overall sample.

Figure C.5: Education distribution of respondents who worked entirely from home



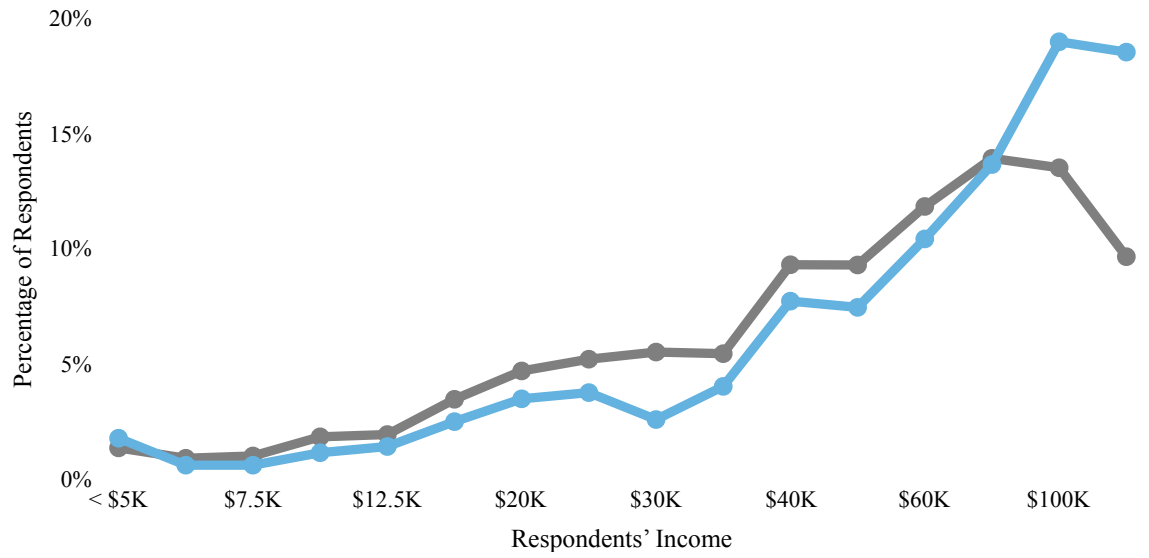
Source: The American Time Use Survey, 2010-2014. Overall sample refers to those n = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

It's unsurprising, then, that respondents who reported working entirely from home had a much higher share of people who family incomes above $100,000. In the sample overall, 23% of respondents made over $100K; among home-based workers, this leapt to nearly 38%. This distribution can be seen in Figure C.6.

This increase in family income, however, is accompanied by an increase in reported average workweek hours. In the sample, the median hours worked per week is about 40, distributed relatively normally. We see in Figure C.7 that, for respondents who worked entirely from home on their reported day, the graph is somewhat skewed in favor of longer workweeks.

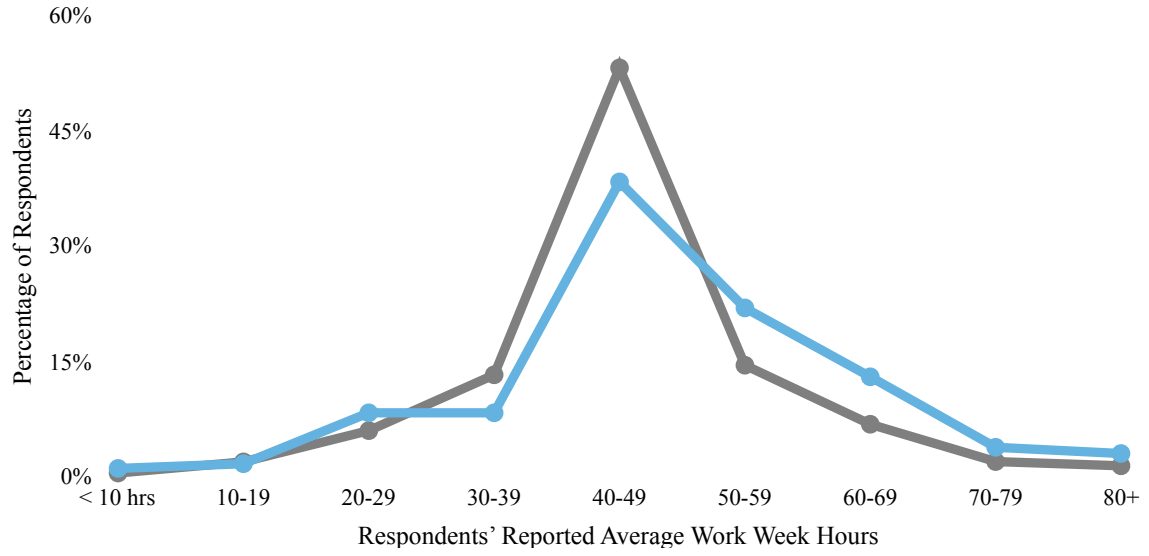
This makes sense once we look at the distribution of home-based workers by sector (Figure C.8) and by occupation category (Figure C.9). In the overall sample, self-

Figure C.6: Income distribution of respondents who worked entirely from home



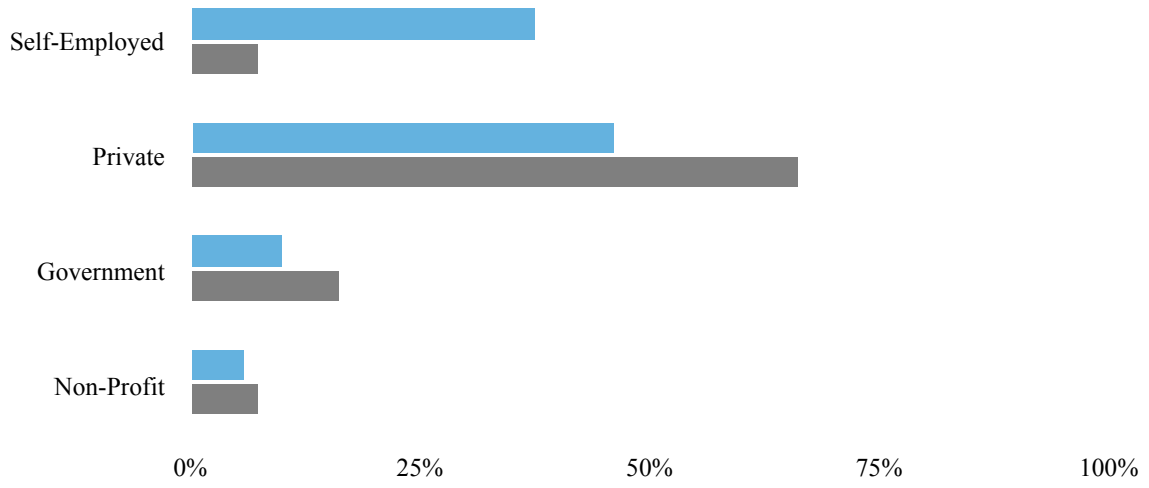
Source: The American Time Use Survey, 2010-2014. Overall sample refers to those *n* = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

Figure C.7: Reported average work week hours of respondents who worked entirely from home



Source: The American Time Use Survey, 2010-2014. Overall sample refers to those *n* = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

Figure C.8: Employment sector of respondents who worked entirely from home

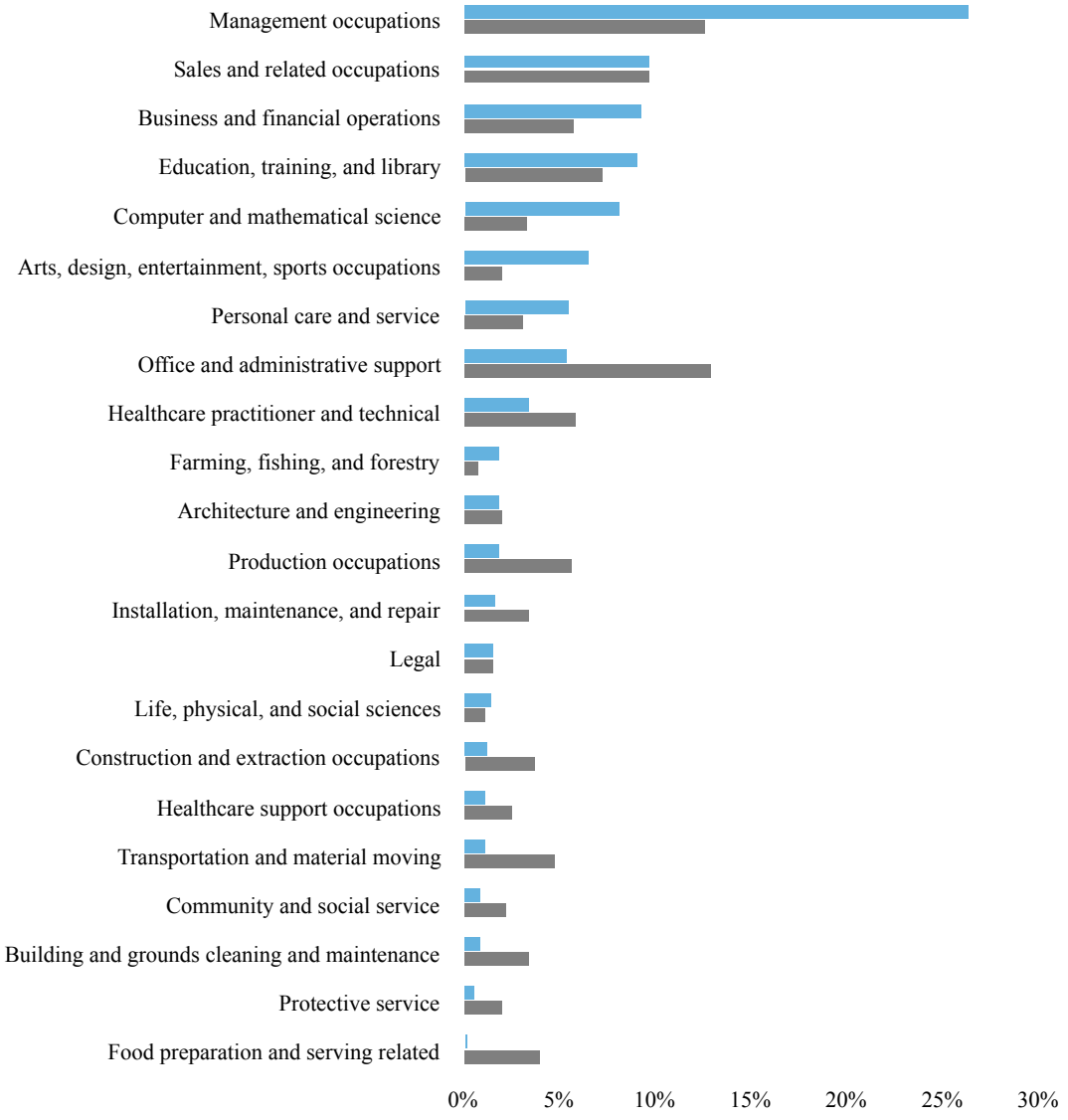


Source: The American Time Use Survey, 2010-2014. Overall sample refers to those n = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

employment only accounts for 7% of workers; however, this jumps dramatically to 37% among respondents who reported working from home. Among the self-employed, working from home tends to be of a higher intensity (Mateyka et al 2012).

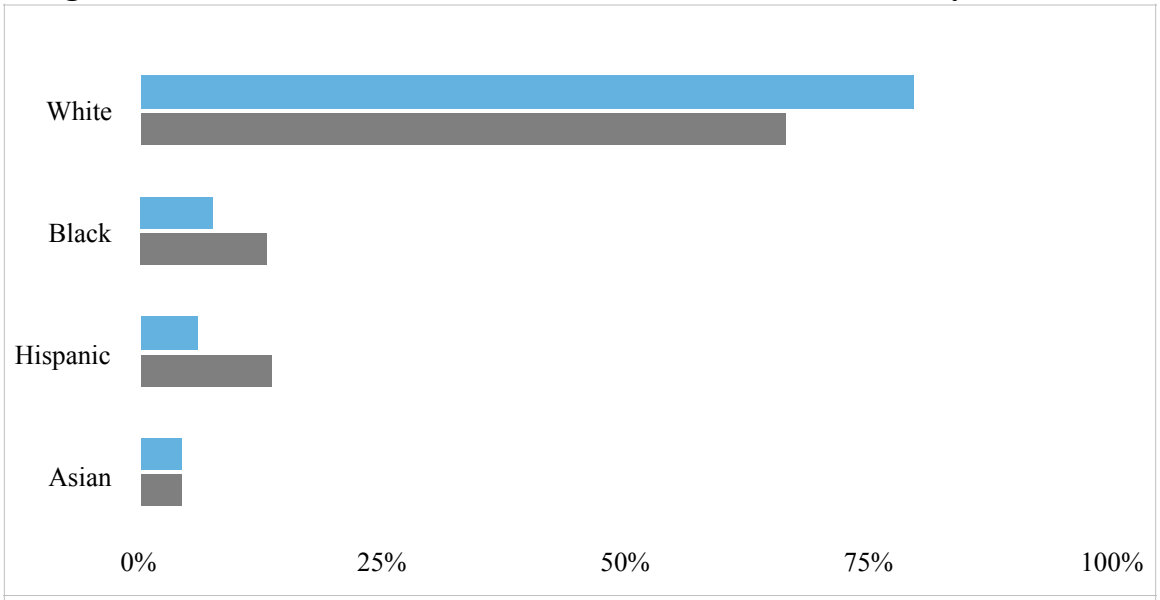
In Figure C.9, we see that the proportion of home-workers in management occupations is much higher than the overall proportion. People who worked from home were also more likely to be in management, business and finance, computer science, and art, design, entertainment, and sports occupations (see also Mateyka et al 2012). They were far less likely to work in occupations that require a worker to be on-site as a matter of course, such as food preparation, office and administrative support, production, transportation and material moving, or building and grounds cleaning and maintenance.

Figure C.9: Industry of respondents who worked entirely from home



Source: The American Time Use Survey, 2010-2014. Overall sample refers to those n = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

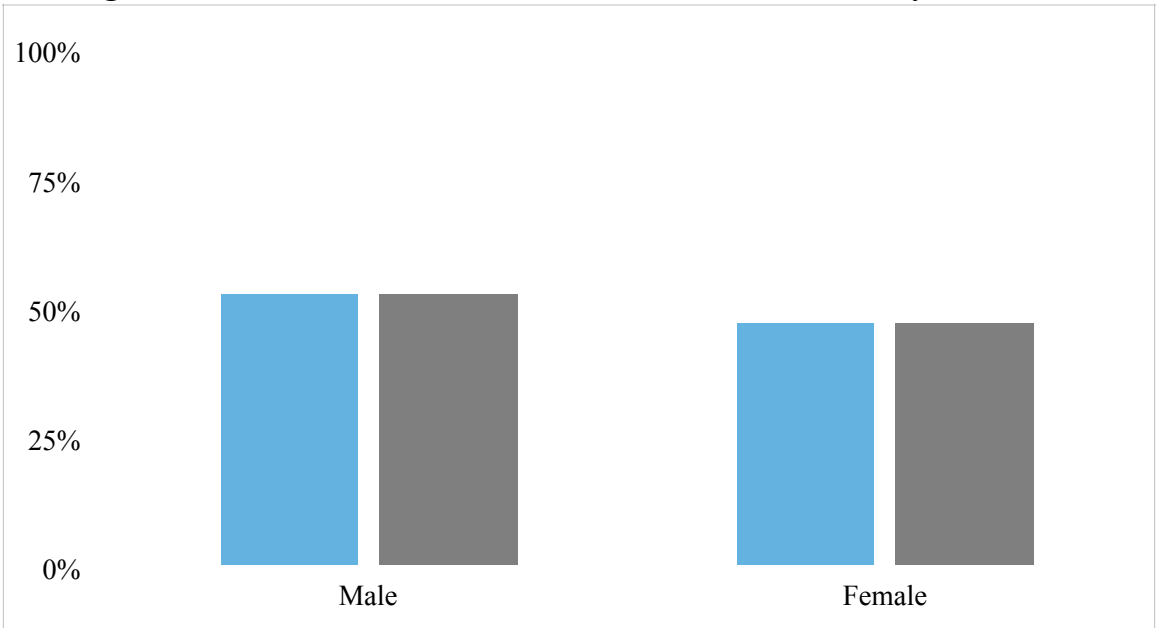
Figure C.10: Racial/ethnic distribution of those who worked entirely from home



Source: The American Time Use Survey, 2010-2014. Overall sample refers to those *n* = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

What about race and gender? Let's look at Figure C.10 for the racial makeup of those who worked entirely from home on their reported day compared to the overall sample of respondents who worked at least four hours. My sample tends to be more white than usual — whites made up nearly 80% of the home-based workers, compared to 66.38% of those respondents who worked at least 4 hours on their reported day (see also Mateyka et al 2012; Wight and Raley 2009). Blacks and Hispanic Americans were much less likely to have worked entirely from home, while Asian Americans consisted 4.4% of both the overall sample and the work-from-home sub-sample. We see in Figure C.11 that men and women were equally likely to have worked from home. In fact, the difference between home-based workers and the overall sample was a matter of 0.02%.

Figure C.11: Gender distribution of those who worked entirely from home



Source: The American Time Use Survey, 2010-2014. Overall sample refers to those *n* = 17,351 respondents who worked at least 4 hours during their reported day, of which 1,110 worked entirely from home.

Summary

To sum up, the ATUS offers a unique look at the population of people who work from home. Among those randomly sampled, on a random day of their year, very few people work entirely from home. People who get the chance to work entirely from home tend to be more privileged: they are usually white, highly educated, have more income, and work in less physically demanding fields such as management, finance, computer science, and arts, design, entertainment, and sports occupations. That being said, the rate of self-employment among those who worked their reported day entirely at home is exceptionally high, and the number of hours worked per week was higher among home-workers.

These statistics suggest a new direction for sociological concern: the privilege involved in working from home. In the words of Noonan and Glass (2012: 44), "the ability to work at home appears to be systematically related to authority and status in the workplace." By collecting not only a random sample of workers, but also a randomly selected day, the ATUS provides a look into those telecommuters who work from home regularly enough to have been picked on the a day they worked entirely from home. Respondents who worked entirely from home on their reported day are more likely to be white, highly educated, high-income, and work in less physically demanding fields. It is, of course, easier to work from home if your job involves a laptop; it is less easy if your job involves taking care of the sick, re-stocking grocery store shelves, or vacuuming an office floor.

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